The Journal of The SOUTH CAROLINA *Medical Association*

VOLUME LII | MARCH, 1956 | NUMBER 3

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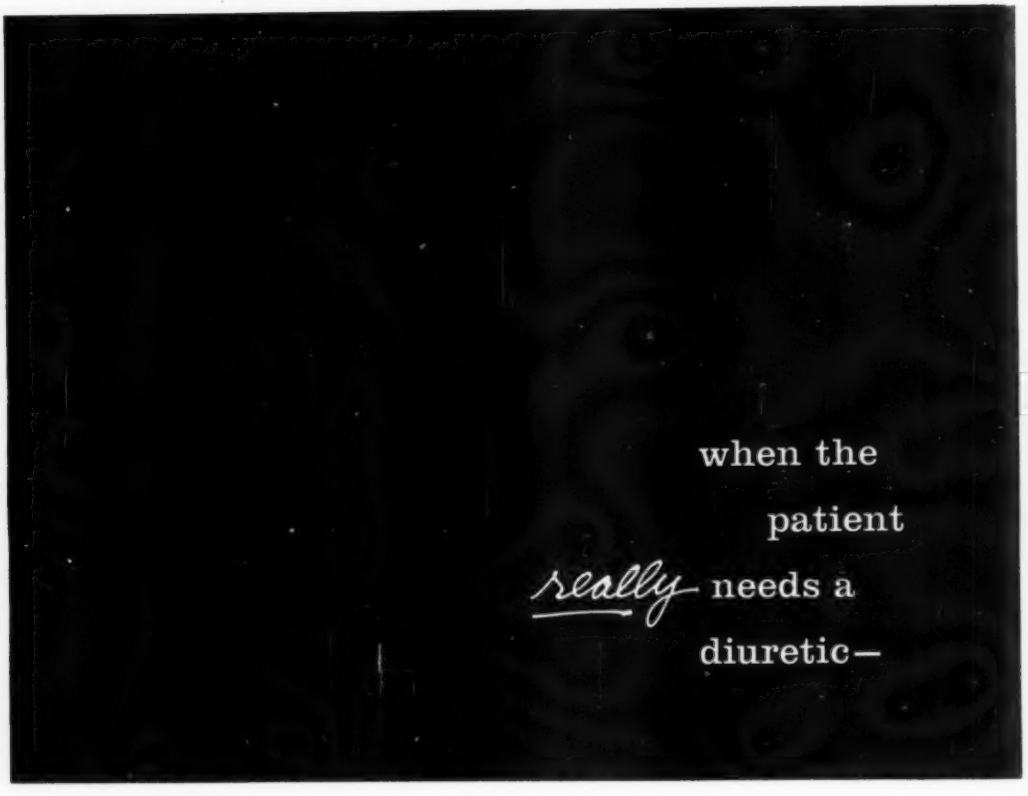

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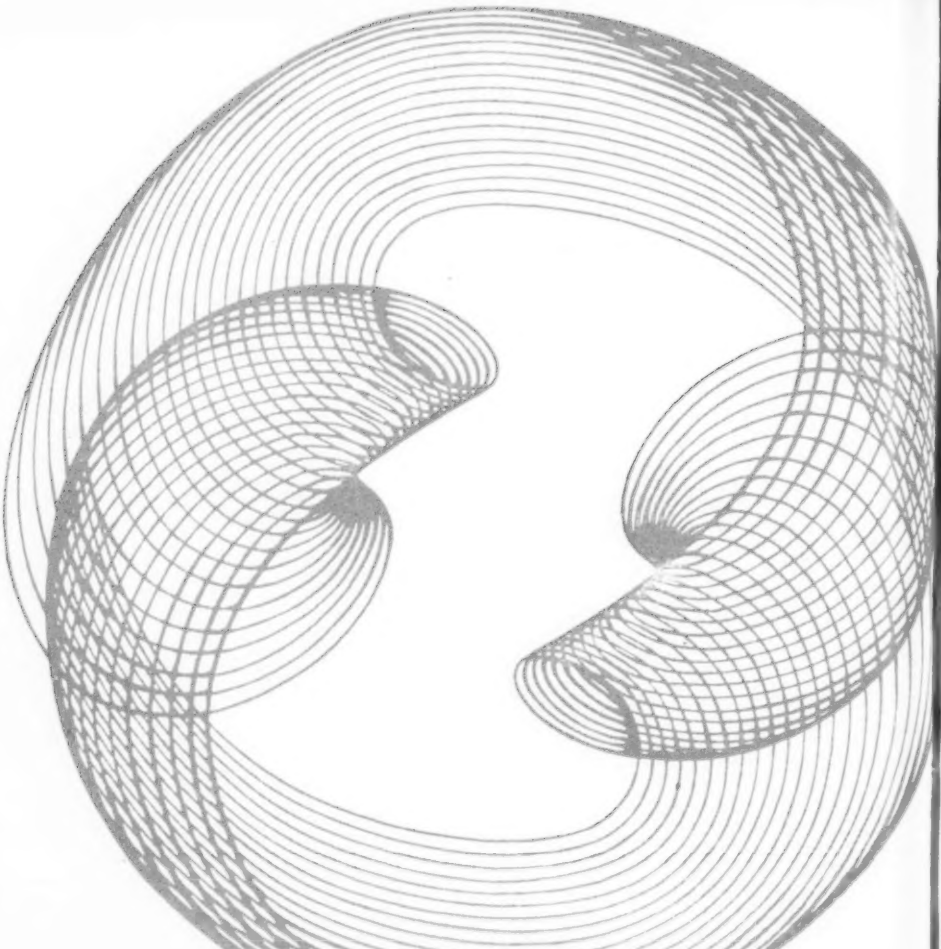

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The Journal
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VOLUME LII March, 1956 NUMBER 3

RECENT ADVANCES IN MEDICINE*

HUGH SMITH, M. D.

Greenville, S. C.

About 350 B. C. Aristotle wrote to Alexander, who was preparing for one of his great military ventures, "Do not let your men drink out of stagnant pools—Athenians, city born, know no better—and when you carry water on the desert marches, it should be first boiled to prevent its getting sour." It was not until 100 years ago, 2150 years after Aristotle, that the theory of 'Contagium Animatum' advanced by Henle and others was confirmed by Pasteur and Koch.

I graduated in medicine in 1918. My baptism in practice began with that horrible pandemic of influenza just three months later. I probably signed more death certificates that fall than in any five year period subsequently.

In World War I and for fifteen years after our mortality from pneumonia and meningitis was around 40%. In World War II the mortality from these two ancient killers was about 4%, a dramatic change in less than twenty-five years. In this short period of time—and all of it in my medical practice years, some very wonderful things have come to pass.

1. In 1920 Banting and Best isolated Insulin and made it practical within three years.

2. In 1924 Graham and Cole found a method of concentrating iodine in the gall bladder and cholecystography became practical.

Shortly after it became possible to examine the urinary tract by the x-ray and to do bronchographic and intraspinal x-ray studies.

3. In 1926, as a result of Whipple's study of anemia, Minot and Murphy applying his observations tried liver in the treatment of pernicious anemia.

4. In 1935 the Germans made Prontosil available for various septic coccal infections. Shortly afterwards the French uncovered the chemical formula and sulfanilamide became rapidly available and also cheap. In rapid sequence various sulfonamides were prepared and studied and their effectiveness proven.

5. In 1937 nicotinic acid was found to cure black tongue of dogs. Oddly enough nicotinic acid was the first vitamin to be isolated in pure chemical form. It had been made from nicotine in 1867. It was isolated from rice polishings again in 1911 by Funk, who was looking for a cure for beri-beri. Yet it was not found useful until 1937 when its specific effect in pellagra came from its first use as a treatment for black tongue in dogs.

6. In 1941 penicillin was found largely by accident, or rather by the keen recognition of the possibilities seen in the accidental contamination of some cultures. In 1943 its production commercially began and by 1944 we were using it in World War II.

Antibiotic therapy began with penicillin and yet for several years before Rene DuBois had been working with gramicidin, which was probably the first real study of this concept of therapy. The rapid sequence of new antibiotics is only mentioned. All of these developments have come in my professional life. Yet none is recent in terms of today. Many of you cannot conceive of the practice of medicine without them. You will wonder how we got along without them. I do too. Yet these things

*Presented at Greenville Medical Day, Oct. 4, 1955.

all came to pass within a short period of twenty-five years—between the last two great World Wars.

Great things are still happening and it is most likely that some of you twenty-five years hence will have occasion to review the great advances yet to come but which will then be as commonplace to your audience as these things are to you. As new things come you might well remember Pope's "Be not the first by whom the new is tried, nor yet the last to lay the old aside."

The corticoids.

There has accumulated a vast literature on the subject of the corticoids and ACTH in recent years. One would hesitate to review such a topic as part of a talk and for that reason I only want to mention briefly some of the more recent developments. You recall that when first developed they were hailed as the spectacular cure for chronic rheumatoid arthritis and other distressing and crippling diseases. There followed the inevitable backswing from such over-enthusiasm, as the side effects and ill results became better known. Now with more experience and increasing knowledge of their usefulness one feels more confident with them.

The first improvement in the study of these drugs came with the development of hydrocortisone, which was more potent and caused somewhat fewer side effects than the original cortisone. More recently and due to continued research with the organic chemical structure there has appeared prednisone and prednisolone. The one most favorably reported in recent studies is prednisone (Meticorten) which appears to have all the virtues and fewer of the faults of cortisone and hydrocortisone. A number of excellent reports are now available and they are practically unanimous in the opinion that prednisone is four to eight times as active, mg. for mg., as cortisone or hydrocortisone. In its antirheumatic effect it surpasses the older steroids. Whereas with cortisone and hydrocortisone we had the problem of sodium retention and potassium loss to deal with—these electrolytes show very little disturbance with the ordinary dosage now used of prednisone. Equally as good results have been reported in the treatment of various dermatoses and in asthma. It is also better tolerated by diabetics. One man doing a great deal of work with this drug has told me that he thought prednisone was just as likely to produce or activate peptic ulcers as the older preparations. One author has mentioned the development of symptoms of angina pectoris in a few patients while taking Meticorten. I have had one such experience this summer. However, the drug has proven of great value to me in my work and so far I am quite pleased with the good effects and have been equally pleased with the lack of ill effects in my limited experience.

There has recently appeared some very interesting reports on other analogues of Cortisone, both natural and synthetic. 9-a fluorohydrocortisone acetate has been found to lessen rheumatic symptoms but to produce troublesome sodium retention and potassium loss. While therefore it is not too useful orally, it has proven useful in the topical treatment of certain dermatoses.

Only quite recently a natural steroid obtained from the beef adrenal cortex has been isolated. Such a steriod was known to exist and had been called Electrocortin. Now that it has been isolated it has been named aldosterone because it has an aldehyde group at C-18. Conn has recently described a case he believed to represent primary aldosteronism. The clinical features include periodic episodes of severe muscular weakness, paresthesias, intermittent tetany, hypertension, polyuria, polydipsia and strangely, no edema. The resemblance to familial periodic paralysis is apparent. In his patient an adrenal cortical tumor was removed with relief of symptoms. Later he was able to reproduce the symptoms after recovery with small doses of aldosterone. Conn suggests that potassium losing nephritis and hypochloremic alkalosis reported by other observers might be due to hyperaldosteronism.

A new clinical syndrome is thus presented and great credit is due to Conn for his careful clinical and laboratory evaluation of a most

interesting problem. The adrenal gland is certainly a complex organ which occupies a critical position in the chain of endocrine physiology.

In June 1955 in the *Lancet* Llaurado has made an interesting report of his observations that there is an appreciable increase in the urinary excretion of Electrocortin, or aldosterone, in the immediate postoperative stage following surgical trauma. This offers an explanation for the known potassium loss and sodium retention occurring after surgical trauma. This steroid is said to be 20-100 times as potent as DOCA in terms of sodium retention and potassium excretion.

Aldosterone is as yet available only in minute quantity. When it becomes available one would expect it to prove of great benefit in cases of adrenocortical insufficiency.

Ward and colleagues of the Mayo Clinic have recently expressed the optimistic view that the development of these newer steroids, natural and synthetic, with differing characteristics and potencies strengthen the conviction that superior compounds will be developed for the control of rheumatoid arthritis and certain other conditions. So many things have come to pass through chemical research in recent years that I am prepared to believe anything possible.

Anticoagulant therapy.

It was in 1946 that the American Heart Association appointed a committee on anticoagulants. Within two years a carefully recorded study of more than 1000 cases of myocardial infarction was accumulated. A preliminary report on these cases in 1948 revealed some very interesting statistics. In those days only heparin and dicumarol were available. The preliminary report established beyond doubt that both the incidence of thrombo-embolic complication and the mortality in the group treated with anticoagulants were less than in the control group. Continued experience with anticoagulants has confirmed these initial findings and now the use of such drugs has become generally accepted. In more recent years there has been a tendency to withhold anticoagulant therapy in the so-called mild cases of myocardial infarction. In the last few years other drugs capable of reducing the prothrombin level have become available and now the choice is largely a matter of which drug the physician prefers to obtain essentially the same result. Probably dicumarol is still the one most generally used. Tromexan and Hedulin are now widely used also. Dicumarol effect is more prolonged and, therefore, perhaps more hazardous. Tromexan will initiate a therapeutic prothrombin level more rapidly and the low level will return to safe levels more quickly than with dicumarol. The same is true of Hedulin. This latter drug is our particular choice, perhaps because we have used it consistently for the last two years and are more familiar with its effect. I have had no experience with Warfarin or Dipaxin. It is a trite remark to this audience that expert laboratory control is essential for the safe and intelligent use of any anticoagulant. Even under apparently ideal situations an occasional unhappy bleeding occurs which can be most disturbing. Now that we have vitamin K-l oxide available and have found it effective in reversing rather promptly the low prothrombin level, we no longer fear these complications as much as we once did.

In general, with adequate laboratory control (a prothrombin time of 12-16 seconds for the control) one can feel fairly safe with the patient's prothrombin time of 25-35 seconds (2 - 2½ times that of the control).

There are certain conditions where anticoagulants are best not used. Some of these are 1, liver damage with prothrombin deficiency; 2, vitamin C deficiency; 3, renal insufficiency; 4, blood dyscrasis with bleeding tendencies; 5, late pregnancy; 6, ulcerations of open wounds; 7, recent operations on the brain or spinal cord; and 8, subacute bacterial endocarditis because of possible cerebral embolization or hemorrhage.

One should be very hesitant to do much deep intramuscular therapy with a low prothrombin level. There is real danger of retroperitoneal hemorrhage in such cases when a lumbar sympathetic block is attempted or

where paracentesis of the pericardium might be attempted. It is generally stated that the incidence of hemopericardium and of rupture of the heart in myocardial infarction with anticoagulant therapy is perhaps twice that in the cases that have not received such therapy. An inquiry to Dr. Dreskin revealed the fact that he did not recall a single rupture of the pericardium that could be attributed to anticoagulant therapy occurring in this hospital the last few years. There has been one case of pericardial hemorrhage where this might have been a factor.

Pressor substances in shock.

The development of circulatory collapse producing shock in acute myocardial infarction is a grave complication. One might arbitrarily select as dangerous a systolic blood pressure of 80 or less in previously normotensive patients, and of 100 or less in known hypertensive cases. If this low level persists for an hour or longer shock will ensue. The mortality in such cases without specific antishock therapy is quite high. Griffith and colleagues reported in November 1953 a series of 816 consecutive cases of myocardial infarction, of which 161 (20%) developed shock. In review of this series they found a mortality of 80% in those cases where no specific antishock measures were used. These cases had been treated by the usual routine measures including morphine, oxygen, anticoagulants, quinidine and digitalis. They then reported their experience with three of the newer sympathomimetic amines, nor-epinephrine, Methoxamine and isopropyl-nor-epinephrine, in a series of 105 similar cases of shock complicating myocardial infarction. Nor-epinephrine is readily available as Levophed. Its proper use controlled shock in 17 of 30 cases. Methoxamine controlled shock in 10 of 49 cases and isopropyl-nor-epinephrine controlled 7 of 26 cases.

Comparison of the effects of these pressor amines shows that in patients with an intact conduction system Levophed and Methoxamine raise blood pressure while isopropyl-nor-epinephrine does not. Epinephrine and isopropyl-nor-epinephrine increase the heart rate while nor-epinephrine has no effect on the rate and Methoxamine slows the rate. This becomes important in cases of complete A-V dissociation with shock. Here isopropyl-nor-epinephrine (Isuprel) will both increase the heart rate and raise the blood pressure, thereby often preventing Adams-Stokes attacks and controlling shock also.

In the usual case with an intact conduction system, nor-epinephrine is the choice. It is given in continuous drip by adding a 4 ml. ampule of 0.2% Levophed to 500 ml. of 5% glucose and given slowly intravenously with a drop rate of 15-30 per minute. This dose rate is so regulated to maintain a systolic blood pressure of 90-100 if possible. It can be continued for several days if necessary. If Levophed or Isuprel are given for any length of time it would be well to give quinidine concurrently. The Levophed and Isuprel act primarily on the arterioles but it appears that significant arrhythmia and ectopic rhythms are more likely to occur in cases of such severity that the pressor drugs are necessary.

Serum Glutamic Oxalacetic-Transaminase.

A relatively simple and reliable laboratory test for the earlier diagnosis of acute myocardial infarction has been reported recently. This test is based on the laboratory evidence of a rapid and pronounced increase of the enzyme SGO-T in the serum of animals with experimentally produced acute myocardial infarctions. This test becomes positive in a matter of hours and therefore may precede ECG, temperature, leucocytosis and sedimentation rate changes a day or two. Should this test become commonly available, another assist from the laboratory in the early confirmation of actual myocardial infarction will be indeed welcome.

The evidence thus far available indicates that there is no increase of SGO-T in myocardial ischemia, and that it is only released in excess from areas of actual muscle necrosis.

This enzyme is also found in liver and skeletal muscles and the test is therefore not specific for myocardial infarction. However in the absence of quite recent muscle injury, either by surgery or trauma, or in the absence of diffuse

liver disease, it is not likely to be confusing. In a typical case of myocardial infarction the SGO-T level rises rapidly to a peak level within 36 hours and then tapers off gradually to a normal range in 4 to 6 days.

A preliminary report on this new development is found in the August 1955 issue of *'Circulation'* and will prove interesting reading to anyone who cares to review the subject.

Selection of cases for cardiovascular surgery.

Surgical procedures and techniques have developed rapidly in the field of rheumatic valvular heart disease, in congenital heart disease and in obliterative atherosclerotic disease of the abdominal aorta and its major divisions. It has become increasingly important to the clinician and merits some review of its possibilities here. I will not attempt to discuss the selection of congenital heart disease for surgery since this has become a highly specialized procedure and, as yet, requires special studies in diagnostic clinics equipped for this purpose.

In rheumatic heart disease the most important single lesion responsive to surgery is mitral stenosis. There has now accumulated a large experience with mitral valvuloplasty and one can begin to fairly evaluate the procedure. Ellis and Harken in a recent issue of the *Annals of Internal Medicine* have reported a summary of their experience with 500 such operations. Of course pure mitral stenosis is comparatively rare and there are usually other factors present in rheumatic heart disease. Even the most satisfactory procedure available does not restore the valve to a normal state. The operation is a blind procedure and the experience and skill of the surgeon are vitally important when undertaking this operation. In attempting to select patients for this operation they have followed their original classification and continue to divide the patients into four groups.

In group one are patients without significant symptoms who have only the murmur of mitral stenosis. These people have good exercise tolerance and on physical examination reveal no significant cardiac enlargement and they are quite comfortable in the ordinary activity of their daily lives. This group does not need and should not have mitral surgery. They might well live normally active lives without more trouble from their hearts.

In group two we would put those patients with some functional impairment, usually dyspnea on moderate activity, which is not progressive. If this individual finds his limitations not too annoying and his symptoms are not progressing, he can postpone surgery with the hope that his lesion will not progress. If his limitations are unacceptable or his symptoms begin to increase he can face surgery at this stage with minimal risk. In such a case surgery should be considered with the factors mentioned.

In group three are patients with progressing symptoms, dyspnea, cough, episodes of pulmonary edema or repeated attacks of acute dyspnea. This group is the one in urgent need of surgery. Their course otherwise is progressively downhill and ultimate chronic failure will supervene. If this is allowed to happen the chance of a good surgical result may be lost. The total mortality in this group reported by Harken has decreased from 14% in the first 100 such cases to 3% in the last 100 such cases. In a subsequent series of 200 group three cases the mortality now reported is only one case. This certainly confirms what was stated earlier, that experience and skill are very important if the best surgical results are obtained.

In group four are put the cases in chronic congestive failure and which usually show chronic auricular fibrillation, perhaps have a history of embolic complication and are properly classified as cardiac invalids. There were 145 out of the 500 cases operated in this group. Surgery here is of course hazardous and the mortality even now with more experience and improved operative skill still runs about 25%.

In evaluating results in this series of patients Ellis and Harken arrive at some very interesting statistics. Divided on an age basis only they report,

Of patients under 40—85% improvement.

Of patients over 40—70% improved.

Of those with normal sinus rhythm—87% improved.

Of those with auricular fibrillation—70% improved.

Of those without calcified valves—81% improved.

Of those with calcified valves—66% improved.

Of those without mitral insufficiency—82% improved.

Of those with moderate to marked mitral insufficiency—63% improved.

In a follow-up report on these 500 cases averaging twenty-two months, they claim that 78% of patients surviving operations showed significant and usually persistent improvement.

In review then we find that certain factors lead to poorer results.

1, Age over 40.

2, Auricular fibrillation.

3, Associated aortic valve disease.

4, Associated mitral insufficiency.

5, Calcification of the mitral valve.

6, Surgical failure to obtain an opening of at least 2.5 square cm.

The poor results are directly proportionate to the number of adverse factors listed present at the time of surgery.

In considering surgical intervention for atheromatous obstructions in the larger arteries of the abdomen and lower extremities one is faced with the problem of adequate preoperative diagnosis. While Leriche first described the syndrome which now carries his name in 1923 and again in 1940, it was not given much surgical consideration until the last few years. Now with relatively safe methods of intra-arterial radiography available we can approach more readily this problem and with a reasonable degree of optimism. An abdominal aortogram will reveal the caliber and integrity or impairment of the lower abdominal aorta and common iliacs. Intrafemoral injections will reveal the integrity or damage of the femorals. Thus the surgeon can decide whether to and where to operate with the best chance of success.

Leriche's syndrome is usually manifested first by increasing fatigue in the lower extremities and then by pain and claudication in the low back or thighs on much walking, and by impotence. This latter development is more often the presenting complaint and the one that makes most patients willing to undergo surgery. It is usually characterized by insidious thrombosis of the abdominal aorta above or at the level of its bifurcation.

There are two surgical procedures now available.

1, If the thrombosis is not too extensive an endarteriectomy with removal of the obstructing thrombus can sometimes be successfully done.

2, If the degree of involvement is more extensive and the obstruction more complete, resection of the involved segment and its replacement with a proper arterial graft is being done more and more often. There is considerable experimental work being done with plastic mesh grafts that may become quite practical and eventually prove thoroughly satisfactory for this operation.

In patients with severely impaired circulation in the lower extremities who suffer a great deal with cramps and claudications, a similar approach to the diagnosis and correction by surgical measures is even more feasible and less hazardous. To any of you particularly interested in the technique of femoral arteriography I would refer you to an excellent article from the Cleveland Clinic Foundation in the *Journal of the American Medical Association* for August 27, 1955.

The treatment of hypertension:

Essential hypertension does not apparently have a specific etiology. It is likely a result in a susceptible individual of one or several factors. These are perhaps familial, humoral, functional and renal influences. The old adage "To prevent hypertension choose your grandparents carefully" has some modicum of truth.

Such humoral mechanism as the renin—angiotonin system, the vasoexcitor material and the sodium retaining influence of adrenal cortical hormones have all been studied extensively. Until recent years therapy has been

entirely sedative and symptomatic. Some ten or twelve years ago we became intensely interested in the surgical approach through more or less extensive sympathectomies and following that, the low sodium and rice diet of Kempner became quite popular. While some results were obtained, this stimulated more intensive research and resulted in the newer sympatholytic compounds, with which a so-called medical sympathectomy could be done.

Typically essentially hypertension starts as a labile pressure with occasional elevations which occur gradually more often and finally remain persistent. Women are twice as prone to it and tolerate it twice as well. The usual case seems to run about twenty years and will terminate in the mid-fifties with a cerebral accident, cardiac failure or, less often, renal failure. The typical hypertensive is an anxious and compulsive individual who is often a perfectionist as well. Whether or not essential hypertension and cardiovascular-renal disease are separate or interdependent diseases is a moot point. It seems certain that you may have one without the other for a while. Certainly either will aggravate the other and both do tend to occur in the same patient. It would appear that hypertension is primarily a functional disturbance and therefore reversible, whereas organic vascular disease is structural and reversible slowly if at all. If this be true then every effort should be made to reduce the early hypertension in an effort to forestall organic vascular change as long as possible. We now have drugs of proven value and much is known about their use. No doubt more effective drugs and procedures will appear in the near future. So great is progress of research today that no one would dare consider anything impossible.

Recently Wilkins of Boston has reviewed the actions of several drugs known to produce hypotension and has suggested a therapeutic program which offers a reasonable expectation of benefit in a fair proportion of cases of essential hypertension.

First, Rauwolfia serpentina derivatives are the mildest of these drugs. Their action is slow and gentle and its side effects are essentially harmless. Rauwolfia has been known and used in India for centuries as a tranquilizing agent, especially in psychiatry. Its bradycardic hypotensive effects were first noted rather incidentally in such cases.

Rauwolfia is available in three forms.

A. 1. Crude whole root powder, such as Raudixin, with an average dose of 100 mg. two to four times a day.
   2. Alseroxylon fraction, 2-4 mg. q.i.d. and
   3. Reserpine, a pure alkaloid, with an average dose of 0.1-0.25 mg. q.i.d.

B. *Actions*—Sedative, bradycardic, mild hypotensive, increased bowel motility and probably a central adrenergic blocking effect.

C. *Undesirable side effects.* Nasal stuffiness, dreams, depressions and weight gain.

Second, Veratrum.

A. *Forms and dosage.*
   1. Crude root powder, seldom used.
   2. Alkavervir fraction—2-4 mg. q.i.d.
   3. Protoveratrine—pure alkaloid—0.25-0.75 mg. q.i.d.

B. *Actions.* These are
   1. Central neurogenic vaso-dilator.
   2. Vago-bradycardic effect.

C. *Undesirable side effects.*
   1. Nausea and vomiting.
   2. Arrhythmias.
   3. Collapse.

Third, Hydralazine.

A. *Forms and dosage.*
   Hydralazine hydrochloride.
   Dosage—10-150 mg. q.i.d.

B. *Actions.* These are central and peripheral adrenergic blocking, and a general and renal vaso-dilator effect.

C. *Undesirable side effects.* Cardiac stimulant causing tachycardia, palpitation, and in coronary disease, angina pectoris.
   2. Causes headaches.
   3. May cause fever, arthritis, rashes and collagen type disease that fortunately are reversible when the drug is discontinued.

Fourth, Hexamethonium.

A. *Forms and dosage.* Hexamethonium chloride. 25-500 mg. q.i.d.

B. *Action.* Total autonomic ganglionic blockade, hypotension, especially orthostatic.

C. *Undesirable side effects.* Obstipation, postural hypotension, weakness, loss of visual accommodation, atony of the urinary bladder, impotence, and vasomotor collapse.

The other autonomic ganglionic blocking drugs, such as Ansolysen and Dibenzaline have essentially similar effects.

In using these drugs perhaps it is best to always start with the simplest and mildest one. The ultimate effect of Rauwolfia derivatives should be obtained and, if ineffective, you might add one of the others at a time and in sequence until the best result is obtained. Both the Rauwolfia derivatives and the Veratrum derivatives are bradycardic and are at times synergistic. The relative range between an effective and a toxic dose of the Veratrum drugs is rather close. They are neurogenic vaso-dilators operating reflexly through the central nervous system to lower the blood pressure and slow the heart rate. They do not cause significant postural hypotension nor block vasomotor response. The most objectionable side effect is its anorectic and emetic tendency in dosage quite close to the useful hypotensive one. It can cause cardiac arrhythmia, premature ventricular contractions especially, and may cause considerable palpitation when carried to an effective dose level. Atropine will block such side effects quite often should they occur. It appears that the combined use of the Rauwolfia derivatives and Veratrum derivatives is more useful than either one alone.

Hydralazine is a synthetic chemical having renal vaso-dilating and hypotensive properties. It causes some adrenergic blocking but seldom causes postural hypotension. It causes rather frequently some nasal stuffiness, tachycardia and headaches. In the presence of coronary heart disease it may excite angina pectoris. Since Hydralazine is a hydrazine derivative it might be expected to have the toxic effect of synthetic chemicals containing the benzene ring. This must occur infrequently since only one or two cases of pancytopenia have been reported thus far. However, it does cause more often some unhappy side effects, such as fever, rashes, and arthritis and a brawny type of dependent edema. More rarely but still occurring where the daily dosage is 400 mg. or more, a lupus erythematosus-like disease has occurred. In the development of any such side effects the drug should be promptly discontinued and not given again to that patient. Thus far, so far as I know, the collagen-like diseases have all cleared in a reasonable period of time following discontinuance of the drug.

Hexamethonium is perhaps the most difficult one of these drugs to use successfully. It is a total ganglionic blocking drug and an adequate dosage is capable of inhibiting all autonomic reflexes—adrenergic or cholinergic. These side effects can be quite troublesome and must be anticipated and properly treated. It is a powerful hypotensive agent with varying response from patient to patient and in the same patient from time to time. Therefore, its use should be begun cautiously and in small doses and on a four hour daily schedule. This drug should always be given on an empty stomach, preferably one-half hour before meals and before bedtime. A starting dose of 125 mg. q. i. d. is suggested and the patient should be carefully observed for at least two hours after the initial dose. The blood pressure should be checked at 15-30 minute intervals in both the sitting and standing positions. The same schedule should be repeated with each increase of the dose which might be done every second or third day until a definite hypotensive effect is obtained. The symptoms of postural hypotension must be made clear to the patient so that they might learn to sit down or lie down when such symptoms develop. The dose should be just a little less than the one that will cause symptomatic postural hypotension. Constipation is a frequent problem and its development interferes with the absorption and effectiveness of Methonium. The use of Prostigmine, Urecholine and of actual laxatives is frequently necessary for the most effective use of the Methonium compounds. Again the combined use of Rauwolfia and Methonium seems to provide a more stabile therapeutic program than either drug alone.

The same general remarks can be made

about the use of pentapyrralidinium. It has quite similar action and the same theoretical advantages. Its dosage is best begun at 20 mg. q. i. d. and again given before the meals. The dose is slowly increased until postural hypotension is established and then the therapeutic dose is often 20 mg. below the dose required to produce postural hypotension.

Serotonin.

A new clinical syndrome due to carcinoid with metastases to the liver (argentaffinoma) has been recognized and reported from several sources quite recently. This syndrome is principally manifested by peculiar cutaneous flushes, chronic diarrhea, respiratory distress, and valvular disease, usually the right side, of the heart. This Alice-in-Wonderland sort of syndrome has been described and a thoroughly studied case reported by Bean and colleagues from Iowa State University in *'Circulation'* of July 1955. Thorsen and colleagues reported this syndrome in the *American Heart Journal* of June 1954. They suggested that carcinoid tumors might secrete large amounts of 5-hydroxy-tryptomine, (Serotonin), that conceivably could induce the manifestations of this syndrome. The title of their paper actually describes the clinical picture—"Malignant Carcinoid of the Small Intestine with Metastases to the Liver, Valvular Disease of the Right Side of the Heart, (pulmonary stenosis and tricuspid regurgitation), Peripheral Vasomotor Symptoms, Broncho-constriction, and an unusual type of Cyanosis".

In the *J.A.M.A.* for September 24, 1955, in the section 'Correspondence', a group of investigators at the National Institute of Health, Bethesda, Maryland, have mentioned their experience with 5 such cases within the past few months. They describe the cutaneous flushes as episodic erythema, patchy cyanosis, and blanching. These can be confused with vasomotor instability due to other causes. In this syndrome these changes are pronounced and occur with great rapidity. Bean refers to them as an 'Aurora Borealis' sort of thing. The diarrhea is ordinarily simply a matter of several stools a day, of no specific type, and its chronicity without apparent cause is perhaps suggestive. With metastases of this ordinarily low grade tumor to the liver the other symptoms appear. It is believed that sudden release of large amounts of Serotonin to the right side of the heart from the liver causes the flushes and broncho-constriction and ultimately damages the right heart valves. Hepatomegaly may occur and may be considered primary hepatic disease, or in the presence of valvular heart disease, may be attributed to congestive failure.

Perhaps at this very time we are approaching the most startling new development in all medical history. In December 1954 at an American Psychiatric Association Panel discussion the following was concluded. "The psychotic state produced by lysergic acid diethylamide was felt to be not identical with that found in schizophrenia but there were sufficient similarities to suggest that a biochemical factor is involved in schizophrenia."

It has been known for centuries that eating bread made from ergot-infested grain would produce a crazed reaction. There are histories of such epidemics where the whole populace of a community has been driven mad in Europe and in Russia. Ten years ago, a chemist named Hoffman, quite accidentally found himself experiencing a peculiar restlessness and dizziness while working with d-lysergic acid, an active principle of ergot. He went home and to bed and found himself in "a not unpleasant state of drunkenness characterized by an extremely stimulating fantasy". This lasted 2 hours. To check this effect he took deliberately next day 250 micrograms of the new salt and he experienced "even more extraordinary symptoms than before".

Since then the hallucinating and depersonalizing effects of d-lysergic acid diethylamide has been studied and reported by many investigators. LSD and Mescaline (an active principle of the American Indian Peyotl), produce symptoms closely resembling schizophrenia. These are potent drugs and as little as 1/millionth of a gram to the kilogram will produce this effect. This minute amount of drug is of the order of vitamins and hormones and suggests a highly selective action on the central nervous system.

Further study has revealed that five hallucinogens, all plant alkoloids, Mescaline, LSD, ibogaine, harmine, and hashish are much alike chemically. The first four of these contain an indole or indole-like nucleus. Hashish is an indefinite structure as yet.

These alkoloids are adrenergic and in some manner effect the adrenaline cycle. An oxidized product of Adrenaline, Adrenochrome, has produced psychoses similar to Mescaline. Now we come back to Serotonin which also has an indole nucleus. Serotonin is antagonized by LSD and yohimbine and ergotamine. Mescaline, containing an indole-like nucleus, does not antagonize Serotonin. These facts are stimulating a great deal of research in the search for a biochemical explanation and perhaps treatment for mental diseases.

Finally Reserpine has an indole nucleus and just the past week comes a report that it has some as yet uncertain effect on the bound Serotonin in the brain. Perhaps its empirical use in nervous disease may yet prove to be of scientific interest.

Niels Stensen in a lecture on Anatomy of the Brain in 1669, said "Beautiful are the things we see; more beautiful is what we know; But far the greatest are the things we do not know".

ELECTROCARDIOGRAM OF THE MONTH*

DALE GROOM, M. D.**

Charleston, S. C.

Case Record—A 44 year old Negro painter was seen in the Emergency Room complaining of "pain in the heart and shoulders" of about 8 hours duration. Shortly after awakening that morning he had noted a rather severe substernal chest pain, radiating into both shoulders, arms and neck. He described the pain as "stabbing" in nature, aggravated by deep inspiration or by movements of the head and shoulders, and only partially relieved by aspirin. He acknowledged having had a respiratory infection with cough, headache and sore throat during the previous two days but stated that he had felt reasonably well otherwise and had never experienced any similar chest pain prior to this acute illness.

The physical examination was unremarkable except for a temperature of 99° and questionable slight diminution in the heart sounds.

The electrocardiogram below was taken in the Emergency Room, following which the patient was admitted to the hospital with the provisional diagnosis of acute pericarditis.

Treatment was limited to bed-rest and symptomatic measures. On the third hospital day a transient pericardial friction rub was heard. Aside from a leukocytosis (16,000 per cubic mm.) and the abnormal electrocardiographic findings, all laboratory and clinical tests including sedimentation rate, tuberculin skin test, and chest roentgenogram were within normal limits. The patient's pain gradually subsided within a few days, the ECG abnormalities and leukocytosis persisting for about three weeks. His convalescence was uneventful.

Electrocardiogram—The sole abnormality in this tracing is elevation of the ST segments in all standard and precordial leads. The QRS complexes are otherwise entirely normal throughout, as are the T waves. Only in lead aVr is the ST segment depressed below the baseline, and in this lead the T wave is normally inverted.

Serial electrocardiograms during the three week interval following the above tracing showed gradual reversion of these ST displacements to normal. No T wave abnormalities appeared at any time.

Discussion—The most characteristic electrocardiographic findings in acute pericarditis from whatever cause are elevations of the ST segments in virtually all leads. Presumably this is due to injury of a layer of myocardium immediately underlying the epicardium with a resultant "current of injury" over a wide area of the heart's surface. Hence in all leads which record effectively from the outer surface of the heart the ST shift appears as an upward displacement; in aVr, which is essentially an endocardial lead in that the electrode "looks into" the interior of the heart from the right arm, the displacement appears downward because normal myocardium is interposed between the injured area and the electrode.

Myocardial infarction, on the other hand, is a more localized process and generally gives rise to *reciprocal* ST displacements, the direction of which depends upon the location of the injured area. Thus elevation of the ST segment in lead I is ordinarily accompanied by depression of the segment in lead III in the case of infarction of the anterior wall of the heart, or elevation in III and depression in I when the posterior wall is involved.

Much has been made of the fact that in acute pericarditis there is an upward concavity of the ST segments, a pattern which is well illustrated here. This is due to the fact that the T waves are upright and the QRS complexes normal. Coronary occlusion more often produces an upward convexity of the displaced segments. In the later stages of pericarditis, particularly where there has been appreciable damage to the outer layers of myocardial tissue, flattening or inversion of the T waves does occur, often persisting for several weeks. Any pericardial effusion may, of course, lower the voltage of all deflections.

Unfortunately the diagnosis of acute pericarditis is not always so obvious in the electro-

*One of a series of clinical-electrocardiographic correllations. Purpose of this series is the presentation, not of necessarily rare or unusual ECGs, but of those which illustrate basic electrocardiographic principles or which contribute prominently to the clinical diagnosis.

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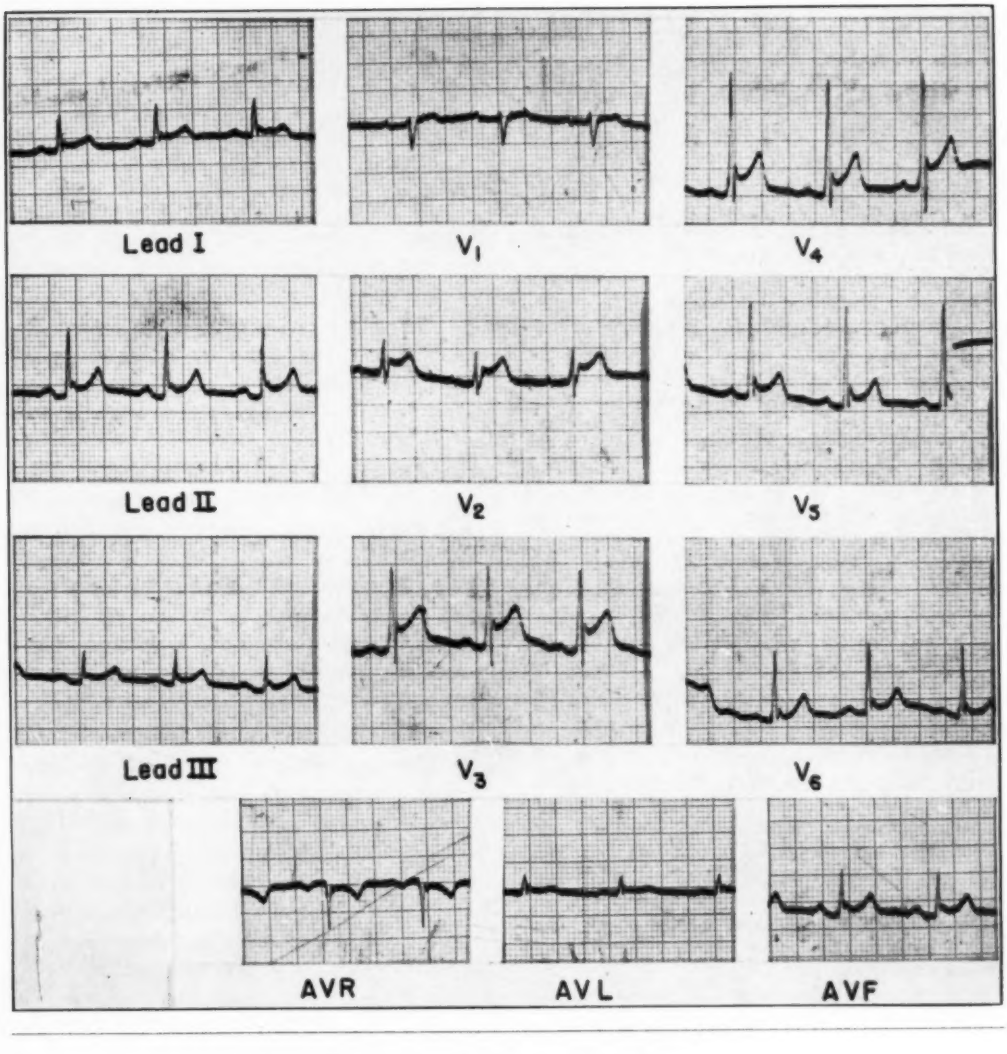

cardiogram. The ST changes may be minimal or atypical, or may not appear at all unless the tracing is taken sufficiently early in the course of the disease. It is also well to remember that high takeoff of the ST segments in some leads is occasionally seen as a persistant finding in presumably normal individuals. As in so many cases, the sequential changes appearing in repeated ECGs, and especially the correlation of these changes with the overall clinical picture, are of the greatest significance in electrocardiographic interpretation.

This patient's course is typical of acute benign non-specific pericarditis, a disease which may closely resemble acute myocardial infarction but in which complete recovery is the rule. This disease, of unknown etiology, was described a century ago. Its increasing recognition in recent years has been due in large part to the development of electrocardiography.

REVIEW OF 1,500 TONSILLECTOMIES*

NORMAN O. EADDY
Sumter, S. C.

This is a review of 1,500 tonsillectomies and adenoidectomies without known fatality, lung abscess, or other chronic or disabling complications. I hope it will help lower the admittedly already low mortality and morbidity rate of the operation.

Conceivably a fatality or complication could have occurred about which I was not informed but that is of course most unlikely.

It might be said that this study is useless—that the mortality rate is so low as to be satisfactory. But so long as there is any fatality rate above zero it is too high. If only one patient in a thousand loses his life he has lost all the life he had—to him the rate is 100%.

Suppose we consider the problem very briefly from eight different angles.

First, I think we can quickly agree that as a rule the better the surgeon is trained the better surgery he will do. In some general hospitals almost anybody who wants to is allowed to do tonsillectomies and adenoidectomies.

But even after the completion of thorough training the surgeon should never stop practicing, in his mind's eye, what he would do if confronted with any conceivable emergency. Otherwise he may have to stop and take time to decide what to do when there is no time. He should be constantly able to tie off an external carotid artery; to cope with cardiac or respiratory arrest; to handle "anesthetic convulsions"; or to relieve threatened tracheal obstruction by vomitus during early anesthesia when the patient's teeth are clamped tightly shut, and so on.

Second, consider for a moment the selection of patients. It should go without saying that no patient should be subjected to this operation without valid reason. The very patient operated on unnecessarily might be the very patient to die unexpectedly.

In my opinion there are three frequently advanced reasons for advising the operation which are open to some question. I refer to mouth breathing, repeated otitis media, and impaired hearing. I have been not infrequently surprised to have such patients relieved by treating an underlying allergy. Associated manifestations of allergy (a skin rash, history of asthma, etc.), the pale color of the nasal mucosa in nasal allergy, perhaps the seasonal rhythm of the ear, nose and throat attacks, or a family history of allergy may give us a lead that the trouble should be investigated from allergic point of view rather than rushing into an operation to remove the (perhaps unoffending) tonsils and adenoids.

I believe it is wrong to operate on these mouth breathers, etc., on the theory that it *might* help the patient. It might kill him.

If we do operate on such patients and if we are persuaded that the patient is vastly improved let us not forget that there are those who insist a deep general ether anesthesia will itself frequently relieve many cases of respiratory allergy—for as long as six months!

Of course, it goes without saying that the patient should be in such condition that the operation is not more dangerous than the disease.

In short, there is still room for much discrimination in the selection of patients for this operation.

In the third place, perhaps we should consider when the patient should be admitted to the hospital. Where practical it seems best to me to admit him the day before the operation. The patient can become somewhat accustomed to his environment, his fear will be less, his temperature can be charted, he can be watched for periodic coughing, etc.

Fourth, let us consider preoperative procedures. I would never tell a patient the operation was free of danger. Any operation is dangerous.

Preoperative medication consists with me almost entirely of discussing the forthcoming episode with the patient, whether he is 3 or

*Talk delivered at the annual alumni meeting of the Brooklyn Eye & Ear Hospital, Brooklyn, N. Y. May, 1955.

63 years old. If a general anesthetic is to be used I rarely give anything except some atropine—1/350th to 1/400th grain for children up to a maximum of 1/150th grain for an adult. I am convinced the danger increases in direct proportion to the increase in preoperative medication. Frankness and reassurance have proved eminently satisfactory for me.

Except to encourage the drinking of a moderate amount of milk (for calcium) I avoid all other drugs such as vitamin K, etc., unless the patient is obviously undernourished.

In spite of reports of (transient) bacteremia after tonsillectomy I do not use penicillin, etc., pre- or post-operatively routinely. Experience has proved that from a practical point of view it is not necessary. It can be dangerous.

I shall omit extensive discussion of physical and laboratory examinations. Surely everybody checks the heart, lungs, urine, and hemoglobin. I still order bleeding and clotting times but I have never known the information to be of any value.

In considering preoperative procedures if a colored, adult patient, especially a male, says in a calm voice just before the anesthetic begins, "I am going to die", I would defer that case. They have been disconcertingly correct at times. No one knew why for a long time and many did not, and will not, believe it. Now fear is recognized as one of the possible causes of cardiac arrest, perhaps by causing the secretion of excessive epinephrin.

The fifth matter of the eight concerns the anesthetic and the anesthetist.

The surgeon's and the anesthetist's personalities should be compatible else they should not associate themselves together for an operation.

I cannot agree that the anesthetist should prescribe preoperative medication unless the surgeon agrees the anesthetist is more capable than he is to do so. The patient usually chooses his surgeon, leaving the choice of the anesthetist up to the surgeon. If anything goes wrong the patient or his relatives usually direct any animosity towards the surgeon.

For induction I have rather consistently used five to fifteen seconds of ethyl chloride sprayed gently on an open ether mask, switching then to drop ether on the same mask. Skillfully used I think it is superb.

With reference to the induction, I find it particularly satisfying to ask the child to "blow it away" as he breathes instead of simply asking him to "breathe" or "not to hold his breath." Once a patient exhales he will inhale. I have have never seen a patient hold his breath after exhalation—only after inhalation.

I have had no experience with endotracheal anesthesia but have not found a need for it.

In doing tonsillectomies under local anesthetics I think it is a mistake to spray the throat with pontocaine or anything else. It is not necessary, is definitely dangerous, and can be fatal. A cotton-tipped applicator soaked, but not dripping, in 2% pontocaine hydrochloride solution, passed gently through one inferior nasal meatus (ignoring the nostril on the other side), and rested for a minute against the mucosa of the nasopharynx will pretty well abolish the gag reflex without disturbing the all-important cough reflex.

The routine use of oxygen at the end of the anesthesia is probably a questionable procedure to say the least. If oxygen is needed something is wrong and should be corrected. If not needed I see no reason to give it. And administering the oxygen may obscure the fact that something is wrong.

In injecting the local anesthetic solution we can never be too careful. I once injected twelve grains of cocaine hydrochloride thinking I was using a weak solution of novocaine. In about one minute the patient was seemingly quite dead but spastic—arms flexed, apparent respiratory paralysis, no detectable pulse, dilated pupils, etc. Fortunately intravenous injection of two tablets of 1/4 grain each morphine sulfate plus a small part of a third tablet resulted in complete obvious recovery in less than five minutes. He is now a grown man, quite healthy, and still has his tonsils.

Surely it must be superfluous to remind anyone to retract on the plunger before injecting the anesthetic solution.

In general anesthesia, vomiting during the induction stage or shortly thereafter when the

teeth are clamped tightly creates an emergency of the highest order. In my opinion stopping the anesthetic here to try to aspirate the vomitus is inviting disaster. Teeth may have to be broken out to get the aspirator in. Once in, the particles of vomitus may be larger than the inlet holes of the aspirator. I do not even slow up the anesthetic if this happens but just turn the patient on his side so no vomitus can enter the trachea. When the patient is sound asleep the vomitus can be safely and easily removed.

If the patient is strapped down, turning him quickly is impossible.

The sixth of the eight aspects is the operation itself and that I will largely skip. Surely anything I might say here to a group in an eye, ear, nose, and throat hospital would be superfluous. Suffice it to say the tip of the aspirator instruments are prone to come loose and fall into the patient's trachea and that ether will catch fire at the most unexpected times. Finally, if the patient is getting under the anesthetic too deeply in spite of the machine having been turned to the 'off' position, take the ether tip out of the patient's mouth. At worst it can only make the anesthetist mad. I have seen it save a life—ether was still being emitted from the ether tip even though no bubbles of air could be seen passing through the jar and the machine was turned off.

The seventh, the next to the last, thought is that of the immediate post-operative care without a recovery room. I think we should always remember a patient can be so easily killed by a little vomitus if the patient is unconscious and is on his back. I routinely place the patient on his side or abdomen so that the mouth is the lowest part of the respiratory tree then emphasize the importance of keeping his chin elevated off of his chest. If the chin is allowed to fall, the patient cannot breathe. I will not have an unconscious patient of mine left alone. Rather, I have sat with the patient myself and, if necessary, will again.

The eighth and last point is that of the final postoperative care. The only thing I want to mention is bleeding. I tell my patients that if they bleed at any time, day or night, to come at once to the hospital and have me called. And I see them then myself. Blood transfusions, coagulants, oxygen, morphine, Adrenersem, etc., I simply do not use except as auxiliary measures. The only treatment I know for bleeding is to stop the bleeding. In adults, removal of the clot and injection of a little novocain-epinephrin solution usually suffices. In children, I put them back to sleep right away in the operating room and tie off the bleeder. In a few instances I have had to suture a Gelfoam sponge in the fossa. Adenoid fossa bleeding can be persistent. If necessary a Gelfoam, or similar, sponge can be left there —with the usual two strings coming out of the nose from it and one out of the mouth to permit its easy removal.

Certainly, as I see it, when a patient is pale from loss of blood oxygen is very poor permanent treatment. As an example, only recently I was called at 2:00 o'clock on a freezing morning to see a child about dead from loss of blood following a tonsillectomy and adenoidectomy. He was in an oxygen tent and a blood transfusion was being attempted—on collapsed vessels. We hurried him to the operating room, gave him a few whiffs of ether (he was virtually unconscious), removed the clots, controlled the flow of tarry-looking blood, then gave him a transfusion. His recovery was rapid.

Especially on surgical floors I think we should regard the use of oxygen with a jaundiced eye. I have repeatedly seen it do serious to irreparable harm, its misuse even resulting in death, but I do not recall ever having seen it do any good on a strictly surgical case. Used over-abundantly it can make the patient unaware of the formation of excessive carbon dioxide in the blood; it will promote fire; it is expensive; and it may obscure serious underlying pathology. In short, my opinion is that we should beware of oxygen except as a very, very temporary emergency measure on surgical floors.

Here, then, are some impressions I have formed since 1931 in doing fifteen hundred consecutive tonsillectomies (usually associated with adenoidectomies) as to how we might make these relatively safe operations safer.

A REPORT TO THE SOUTH CAROLINA MEDICAL ASSOCIATION ON THE EXPANSION PROGRAM OF THE MEDICAL COLLEGE OF SOUTH CAROLINA

By
KENNETH M. LYNCH, M. D., *President*

"Where there is no vision the people perish;
but he that keepeth the law, happy is he."
—Proverbs 29:18.

Introduction

As expressed editorially in the *Journal of the American Medical Association*, January 21, 1956, p. 210, "the present-day medical school is no longer simply an educational institution devoted solely to the undergraduate training of physicians. Today's medical schools are complex centers of medical science, concerned with the basic education of medical students, with the provision of graduate and postgraduate education for physicians, and with the conduct of activities in the constant search for new knowledge and in the prevention, diagnosis, and treatment of human illness."

At the beginning of 1944 the Administration of the Medical College of the State of South Carolina (changed to the original name, Medical College of South Carolina, by legislative Act, 1952), faced with certain critical conditions and facts, initiated the planning that came to be known during its development phase as the Expansion Program. In a hearing before the Ways and Means Committee of the House of Representatives in January 1944, I expressed a conviction that it was futile to attempt to meet the demands being made upon the school unless the State committed itself to support by providing the required physical facilities and an adequate annual budget. The upshot of this frank discussion was that the General Assembly made a full appropriation for our budget requested for that year (and has continued to do so annually to the present moment), and charged us with bringing a plan covering the needs of the institution for consideration at the next session.

This proposition also played a part in the decision of the General Assembly to secure an outside expert study of the needs of the entire area of State institutions of higher learning, out of which came the Peabody survey and report of 1945. In that report the claims and plans of the Medical College were fully supported. (See *Jour. S. C. Med. Assoc.* March, 1946).

Encouraged by these sympathetic and favorable circumstances, on October 16, 1944, a basic plan was presented to the Faculty, and, upon its approval, this was adopted by the Board of Trustees on June 15, 1945.

Believing in the traditional and important position of the medical profession in medical education, and having assurance that the State was awakening to the requirements of support, the other vital step was taken. The medical profession was brought into responsible participation by inviting the local unit of organized medicine and the South Carolina Medical Association to survey the situation, toward approval of our program and support of our plans.

The South Carolina Medical Association delegated a commission of seventeen members under the chairmanship of Dr. James C. McLeod. This commission made a thorough study, including an inspection of the institution and hearings for interested parties, and at a special called meeting, with record attendance, January 3, 1946, the House of Delegates of the

Association recommended complete endorsement, which was adopted "by unanimous standing vote" (*Jour. S. C. Med. Assoc.*, February, 1946).

It is because we undertook this course, of placing the proposition squarely before the responsible medical profession, and thereby committed ourselves to that sponsorship, that it now becomes proper and in order that this open report upon what we have done with the trust thus given and accepted should be made to the South Carolina Medical Association and its membership. The form of this report and the manner of its presentation is consistent with the original approach.

It was not only our conviction that organized medicine is a vital and responsible factor in the development of medical education; it is my belief that failure of medical school authorities to give proper recognition and to secure approval, as well as to provide for protection of the valid interests of the profession, comprise the real cause of the frictions that have afflicted similar efforts elsewhere. It is my belief that such conflicts are avoidable by the simple course of taking all *bona fide* interests into properly balanced account. We have been unusually free, and will remain so, if we adhere to the charted course and the policy of "open covenants openly arrived at" over the conference table of right and reason.

In the following sections an attempt will be made to briefly relate actual applications of the principles approved by the Association. The details are established in the adopted documents concerned, particularly in the "Master Plan" of the Medical College and the "Operational Organization of the Medical College Hospital." These documents are recorded and have been substantially published. They are subject to further publication in due time. Actually they have the effect of law, by Legislative provision.

The Program

Perhaps the factor that made it possible to gain serious consideration of the needs was the critical shortage in the supply of doctors. Conditions were so out of balance during the war years that there was general alarm.

Through expediency in connection with the war effort the entering class at the Medical College had been enlarged from 40 to 50 members. As our plans became reality, it was increased by successive steps to the goal of 80, which was our calculated objective. Together with the institution of the voluntary four-quarter system, we are now producing approximately 125% more doctors than previously. While not everyone is satisfied with current doctor-population ratios, we have played our part in substantially curing the doctor shortage, and not by lowering the standards but withal providing progressively better training opportunity.

In laying plans for the facilities and budget required for the enrollment we estimated as suitable for South Carolina, it was realized that the keystone should be clinical facilities. This would be the most difficult and costly part to provide and support; without adequacy there, even abundance otherwise would not suffice. In the beginning it had to be recognized that the facilities available to the school were not adequate for an acceptable teaching program, even for the class of 40 students previously taken. Furthermore, there was no prospect that this situation could be improved except by securing such additional clinical facilities as were required within ownership control. On the contrary, the reasonable expectation was that existing opportunity would lessen. Experience has proven that except for the completion and opening of the Medical College Hospital, the clinical teaching opportunity would by this time have been totally inadequate in practically all phases for an acceptable present-day medical school operation.

Charleston County Tuberculosis Sanatorium (Pinehaven) has joined the Medical Center, with a new building and an operation that is of mutual advantage. The association between the Medical College, Roper Hospital and Pinehaven will continue to be maintained as a cooperative enterprise, co-ordinated in every way of mutual advantage, and contributed to by the Medical College in every helpful measure that is desired and feasible.

Legislators Greeted by College Officials.

The Medical College Hospital has been opened for operation with organization and procedure for applying the plans approved by the South Carolina Medical Association. This hospital, provided with unsurpassed appointments, equipment and skills for the care and comfort of patients, was dedicated under sponsorship of the Association on May 10, 1955. While primarily proposed and materialized as a medical school hospital, it stands at the service of the regular profession as a referral service in which traditional and enduring relations of physician to patient and of physician to physician will be carefully preserved and practiced. The principles of organization and operation as published in the *Journal of the South Carolina Medical Association*, 1945, and approved by the Association as already recited, may be compared with the rules and regulations now fixed in legally effective adoption. Briefly and concretely these are as follows:

(a) Admission of patients is only by direct referral from private practitioners, except that referral may be indirect in state supported cases.

While in the original plan it was specified that patients would simply be referred to the staff, in application it has not been possible to apply the rule literally. The questions of corporate or institutional practice of medicine, of partnership type of professional organization, of "socialized medicine," all compelled that patients must be accepted under individual responsibility of the members of the staff. However, the principle of group judgment and

control of all patient care is being carried through.

(b) There is no county or municipal contractual arrangement for hospital care of the indigent.

(c) Referred patients of indigent status must furnish acceptable personal guarantee or certification of a responsible public official that the minimal hospital charges will be paid.

(d) For patients judged by the Hospital to be able to pay only the hospital costs, no professional charges will be made.

(e) The Staff of the Hospital is limited to the Faculty of the Medical College.

(f) Referring physicians automatically become associate staff members for their referred patients.

(g) An effective balance between the so-called full-time and the part-time halves of the staff has been established, to give equitable privileges and participation in accordance with the requisites of high grade medical school faculty standards.

(h) Although full teamwork is exercised for every possible advantage to the patient, professional service is individualized. No corporate type or state type of medical care is in practice or in contemplation, except as universally recognized by the profession and prevailing in the care of indigent groups.

(i) As particularly specified within the approval given by the South Carolina Medical Association, in order to ensure against undercutting as well as excessive charges, a professional fee list conforming to current practices in this area is in effect.

Legislators Depart.

(j) Strict control over augmentation of faculty salaries, as well as incomes of non-salaried members, from professional charges to patients cared for in the hospital is established under the requirement of approval of the Board of Trustees and the State Budget and Control Board. Pending further experience, no maximum has yet been set, but adopted procedure ensures against out-of-line remuneration.

(k) The principle that the institution and the State cannot profit from the personal professional services rendered by staff members is firmly entrenched. Likewise, the rules of operation are such as to prevent members of the staff from undue financial reward, although in order to ensure high quality it is recognized that the opportunities for remuneration must be made comparable to those of similar positions in other locations.

(l) By rules and regulations the staff agrees that any surplus of professional revenues undistributed by the limiting authorizations shall be used for research and improvement of the skills and facilities of the services and not for general expenses of the hospital operation.

Other Units

Although the interest and support invited from the Medical Association was particularly related to the provision of clinical facilities for the medical school, the medical profession has an interest in the entire area, including the activities ancillary to medical education.

Of vital importance in this category is the training of nurses, especially in this time of critical shortage. The Medical College now has under construction a School of Nursing building which will provide classrooms and laboratories as well as living and entertainment quarters and administrative offices for an expansion of its enrollment in this school. In addition to the traditional training course there is good prospect of developing a collegiate nurse educational program in cooperation with academic institutions, in order to provide advanced educational experience and a variety of special training opportunity.

While South Carolina remains in a deplorable position on the lowest rung of the ladder of the States in the ratio of dentists to population, and although an Act establishing a School of Dentistry at the Medical College has already been passed by the General Assembly, we have not yet been successful in securing appropriations for construction and operation of this badly needed unit. We shall not rest until that is accomplished.

Although the School of Pharmacy has been provided with new quarters and has a full enrollment, we continue to be challenged by the question of two state-supported pharmacy schools. We remain firmly of the belief that pharmacy belongs in the medical and health field and that whatever educational activity the State provides in that area belongs at the Medical College.

Another educational and training activity badly needed for the State is in public health. A School of Public Health is one of the units included in the "Master Plan." As an important institute in the Medical Center, it is already overdue.

Housing for students of all categories (of which the total enrollment in 1955 was 607), as well as for other personnel, has come to have more significance than merely provision of living quarters. Medical students and many trainees and other workers must be on continuous duty or call. Alumni Memorial House, a dormitory for unmarried men students, has only partially solved the problem. The Medical College extended itself in securing that model building by means of a self-supporting loan. The Alumni Association provided the site and a large part of the cost of furnishing the rooms, as well as contributing to the instructional program costs through the American Foundation for Medical Education.

Summary

In 1944 the Medical College of South Carolina began the development of an over-all plan and program which was submitted to the South Carolina Medical Association in 1945 for its approval and sponsorship.

We are happy to report a full measure of success in maturing the plans of the trust thus given and taken. Without the approval and

support fully given by the Association officially and by its membership collectively and severally, it would have been a dubious venture; with that sponsorship it has been accomplished more satisfactorily and more harmoniously than such enterprises sometimes experience. The job has not been easy. It has not been finished; by reason of its very nature there never can be a finishing point. The investment of money has been large, and so will be the cost of maintenance. We bespeak the continued, constant support of the profession to which we are related, indebted and responsible. As repeatedly said in our publications:

"Much has been said and written of plans for health improvement and better medical care for all. The basis for any good health and medical care program must rest in adequate provision for the supply of a sufficient number of thoroughly prepared doctors, dentists, pharmacists, nurses, technicians, and all other types of medical personnel that have become necessary. The State can afford the required investment and financial support. Under present and foreseeable conditions, it cannot afford to do otherwise." (Annual Report of the President, Medical College of South Carolina, 1954.)

JAMES MOULTRIE AND
JAMES MOULTRIE, JR.

Editorials

RICE ENRICHMENT

The question of the need of enriching the rice which we have carefully denuded of its richness seems to be passed around among the physicians, the nutritionists, and the brokers of the state. Leaving out the last category, which is frankly and vociferously interested chiefly in the cost and trouble of handling treated rice, we seem to come down largely to the thought that enrichment is fine, but its efficacy depends on the manner in which rice is washed and cooked. A survey of our popular habits in the use of rice would be enlightening, especially in the low-income group for whom enrichment would mean most. In the meantime, two points of view are presented below.

How do you cook your rice?

I

Brown rice (hulled rice, unpolished rice) is an excellent food and compares in general with whole wheat in nutritional value. However, to improve its appearance and its keeping qualities, rice is "polished", which process removes almost all of the vitamins and mineral elements and reduces its nutritional value quite considerably. In general, the same situation occurs during the milling of wheat and processing of other food products.

Enrichment of wheat flour, etc. has been practiced for a number of years. The question has arisen in regard to a similar "enrichment" process for rice. On the surface this would seem to be a logical and desirable procedure. However, on closer scrutiny, perhaps such a procedure is not desirable. Rice occurs as discrete kernels and not as a flour. Added vitamins would have to be sprayed on the surface of the kernels or added as pellets or particles. The B group of vitamins is very soluble in water. Brief washing would probably remove large quantities of added vitamins, and boiling would almost certainly remove all added vitamins.

If the wash water and cooking water is discarded, the vitamins will be lost. Could the habits of rice cooking in the population be changed? Which is better, to know the rice is inadequate, or to believe that it is adequate when it is not?

Wm. M. McCord, M.D.
Professor of Chemistry
Medical College of S. C.

II

Since there are population groups in South Carolina who consume large quantities of rice, it seems only fair that these groups have the same protection as those who eat quantities of wheat and corn products and who now benefit from the enrichment of these foods.

Rice may be enriched by the spray method or by the use of a rinse-resistant pre-mix. Rice enriched by the spray method should be packaged and handled in a sanitary method so that washing before cooking is not necessary. The package should be properly labeled, and instructions given for preparation, so as to retain the nutrients.

A survey was made of Home Demonstration club women and 97% agreed that they would be willing to cook clean rice without washing it. During the past year agricultural and health agencies have conducted an educational program on proper methods of cooking rice, both in homes and in institutions.

Rice sold in bulk may need washing prior to cooking. This type should be enriched with rinse-resistant pre-mix.

The usual method of cooking rice in South Carolina is in a rice steamer, a double boiler, or in a single pot with about equal amounts of water and rice. The rice is allowed to cook rapidly at first and then steam until dry and fluffy. Rice cooked in this manner absorbs the water-soluble vitamins and iron used in the enrichment mixture. It is the opinion of agricultural and health workers that most people in the coastal area of South Carolina cook rice in this manner. There are a few people in the state who do drain off the cooking water,

thereby losing most of the water soluble vitamins. Nineteen prenatal patients were recently interviewed at a Medical College clinic. Fifteen patients said they do not drain rice while cooking and four said they do drain off the cooking water. A prominent club woman in Charleston states that she believes not more than one in forty drain partially cooked rice. Neither the Charleston Junior League Cook Book nor the Mount Pleasant P. T. A. Cook Book gives directions for draining rice during the cooking process.

In January a rice miller in South Carolina stated that the cost of the ingredients to enrich 100 pounds of rice by the spray method was five cents and by the rinse-resistant premix method was nineteen cents per 100 pounds. Since that time, two chemical companies have announced a reduction in prices of enrichment ingredients.

Enrichment of rice is required by law in Puerto Rico and Dr. L. J. Roberts, eminent nutritionist, reports that this has been a valuable public health measure for the island people. Enriched rice is shipped from the States to Puerto Rico.

The South Carolina Legislature has made an outstanding contribution to the health of its citizens by passing laws requiring the enrichment of refined wheat and corn products, and now it is proposed that similar legislation regarding white rice be enacted. The enrichment of rice is recommended by physicians, The National Research Council, State and Federal Health Agencies, and The South Carolina State Nutrition Committee, which is composed of representatives from health, welfare, and agricultural agencies in the state.

The enrichment of grain products is not the entire answer to our nutrition needs as it is well recognized that nutrients other than those provided in these foods are inadequate at times in the diets of some. But the enrichment program is one method of helping people most in need until they have the knowledge to choose and the ability to purchase the foods needed for an adequate diet.

Julia P. Brunson, Nutrition Consultant
State Board of Health of S. C.

ANTIHISTAMINICS AND COLDS

As far as the common cold is concerned, the antihistaminics seem to have overstayed the enthusiastic welcome which they received a few years ago. Basing their judgment on several apparently sound studies, the profession and the public hailed the long-sought cure with much soundings of trumpets—and noses. Unfortunately, later, perhaps more exact studies could not substantiate the early claims, and sniffles and snuffles continued in spite of the generous use of the supposedly curative drugs.

The present situation in which many manufacturers still proclaim the virtues of the antihistaminics in the upper respiratory infections is typical of that in which many drugs have been found in the past. While their introduction may take only a few days or months, their ejection from current therapy may require decades of disappointment.

HOW ATTITUDES CHANGE

There was a time, and not so long ago, that crippled children were kept in back bedrooms and hidden from relatives, friends and neighbors. Their parents felt ashamed and actually believed that they were to blame for their children's handicaps.

Today that attitude is changed and crippled children have been brought "out of the dark" and "into the light" through specialized care, treatment and scientific rehabilitation. This change, which is making productive citizens

out of the handicapped, has been brought about by medical groups and by organizations among which the Crippled Children Society of South Carolina, Inc. is a leader. This is the state affiliate of the National Society for Crippled Children and Adults which has more than 1,600 Easter Seal affiliates across the nation.

There are crippled children societies in each of the 48 states, District of Columbia, Alaska, Hawaii and Puerto Rico, and you have probably contributed to their annual Easter Seal campaign.

The South Carolina Medical Association appoints a 15 member advisory board to advise the Society in the program and project field in South Carolina. Joseph I. Waring, M.D., Charleston, serves as Chairman, with William Weston, Jr., M.D., Columbia, as Vice Chairman. Other members of the Advisory Board include: O. B. Mayer, M.D., Columbia, President, South Carolina Medical Association, Ex-Officio; John W. Bell, M.D., Greenwood; C. Guy Castles, Jr., M.D., Columbia; Thomas R. Gaines, M.D., Anderson; T. G. Goldsmith, M.D., Greenville; and James T. Green, M.D., Columbia.

Also, George Dean Johnson, M.D., Spartanburg; Joseph H. King, M.D., Manning; Frederick E. Kredel, M.D., Charleston; Sam G. Lowe, Jr., M.D., Rock Hill; E. Walter Masters, M.D., Columbia; Julian P. Price, M.D., Florence; John A. Siegling, M.D., Charleston; and W. O. Whetsell, M.D., Orangeburg.

The Easter Seal Society aided 2770 persons in South Carolina during the past year. With new medical discoveries and techniques making such strides in the rehabilitation of the crippled, there are many more who can be helped. At the same time services for crippled children continue to grow more costly each year. Funds are desperately needed to continue and expand care and treatment to reach more crippled children. There is no duplication of service with any other agency or organization.

Easter Seal contributions have proved that crippled children can be rehabilitated into tax-paying citizens rather than remain tax-supported ones. This year we must open up our hearts and be as generous as we can during the 1956 appeal, March 10 to April 10.

THE POST GRADUATE LECTURE SERIES

Sponsored by the South Carolina Chapter of the American Academy of General Practice and presented by the Medical College of South Carolina, a series of fifteen lecture sessions have been completed recently at four points in the state; viz., Aiken, Clemson, Rock Hill, and Florence. Subjects included pulmonary diseases, surgery, obstetrics and gynecology, medicine, and pediatrics, and were presented by members of the faculty of the Medical College, both full time and the part time.

This plan of bringing teaching from the College to the physician has been contemplated for a long time and should prove to be a valuable method of contact. The function of a state medical college should desirably include continuation of instruction when personnel, time, and funds permit. At times and places when all of these are adequately provided, a continuation and extension of courses similar to those recently held should prove to be invaluable. In respect to our own College, there must probably be some limitation by circumstances.

The cooperation of the faculty will no doubt be appreciated highly. Especially should thanks be due to the part-time members, who serve the College and the state without remuneration.

SUPER SPECIALISTS

If the fine divisions of the healing art among the ancient Egyptians were not well known, one might be startled to find that there is an American Society for Surgery of the Hand which has recently held its eleventh annual meeting of more than 900 surgeons. Undoubtedly some of them were specialists on the little finger or the thumb, and perhaps there was even a section of specialists on the distal phalangeal area who pointed with pride to their accomplishments.

PRESIDENT'S PAGE

Congratulations to each member of the Association, the Woman's Auxiliary, and the many others who have aided and given support in passing the repeal of the Naturopathic Act. A great service has been rendered the people of South Carolina by this legislation.

O. B. MAYER

NEWS

Dr. Clarence W. Legerton, Jr. has opened an office for the practice of gastroenterology at 66 Pitt Street in Charleston.

Dr. Legerton is a diplomate of the American Board of Internal Medicine, a diplomate of the Sub-specialty Board of Gastroenterology, an associate of the American College of Physicians, a member of the American Gastroenterological Association and of the American Federation for Clinical Research.

Dr. James G. Jeanes was presented a plaque recently by Dr. J. C. Hedden, director of the Spartanburg Health Department, for his cooperation and service in the examination of children in the Lyman school. The award was sponsored by the local PTA.

At the annual meeting of the Medical Staff of Divine Saviour Hospital, Clover, Dr. E. A. Perry of Clover was reelected chairman.

Dr. C. P. Roper was named to succeed Dr. E. E. Strong as vice-chairman and Dr. John M. Pratt will become secretary succeeding Dr. G. F. Hiott.

The Southeastern Society of Neurology and Psychiatry held its 34th clinical meeting in the Jefferson Hotel in Columbia in January, for a business session, including the annual election of officers.

The speaker of the evening was Dr. Norton L. Williams, psychiatrist, of Charleston.

Dr. Robert Taylor of Spartanburg has opened an office in Lockhart. Dr. Taylor interned at the Spartanburg General Hospital, and has been practicing in Tennessee.

Dr. Rhodes W. Quisenberry announces the opening of his office at 4813 Rivers Avenue in Charleston Heights.

Dr. Carter P. Maguire announces the opening of his office for the practice of plastic, maxillofacial and reconstructive surgery, at 126½ Rutledge Avenue, Charleston.

Dr. Richard H. Butler has opened his office for the general practice of medicine at 16 E. Lewis Plaza, Greenville.

Dr. Butler is a graduate of the University of Kentucky, received his master's degree at the University of Tennessee and his M.D. degree at the Tulane Medical School of Louisiana.

Prior to engaging in general practice in Greenville, Dr. Butler served in the Medical Department, U. S. Army, during World War II and the Korean War. Between World War II and his recall in the Korean War, he was engaged in the practice of pediatrics, being associated with The Children's Clinic in Knoxville, Tenn.

The Florence County Medical Association met January 31 in its first meeting since reorganization at a business session held following the assembly of the Pee Dee Medical Association in Bennettsville.

The Florence County Association has for a number of years been nonfunctional except for business meetings. All scientfic and fellowship meetings have been held under the auspices of the larger association known as the Pee Dee Medical Assn. There are seven vice presidents of this association, one from each county who is also president of his county organization. Due to the number of doctors in Florence County, it was decided to hold four meetings a year in Florence County in addition to those held by the Pee Dee Association. The next meeting will be held with Dr. Bruce of Florence at his country home.

At a business session, Dr. George Smith of Florence was elected vice president of the Florence County Association and in such capacity will be the next president of the association.

The present head of the association is Dr. Lebby B. King of Lake City. Dr. Kenneth Lawrence of Florence was elected treasurer. Dr. Lawrence is also secretary of the association from a previous election.

Joseph H. Marshall, M. D. announces the removal of his office for the practice of psychiatry to 116 Rutledge Avenue, Charleston.

Burgh S. Burnet, M. D. announces the opening of an office for the practice of orthopaedic surgery at 134 Wentworth Street, Charleston.

Dr. Hilla Sheriff, Director of the Division of Maternal and Child Health of the State Board of Health was invited to participate in the Fifth Congress of the Pan American Medical Women's Alliance, Inc. at Santiago and Vina del Mar, Chile. Dr. Sheriff will give a discussion of the development of the Maternity Shelter in Greenville, which was originally a project of American Women's Hospitals, a service committee of the National Women's Medical Association. The Shelter is now a thriving community project.

State March of Dimes Chairman Gen. James C. Dozier has announced that a new respirator center soon will be established which will further increase the care which South Carolina polio patients receive.

Gen. Dozier said March of Dimes funds already have equipped nine hospitals which are official treatment centers for South Carolina polio patients.

These hospitals are divided into two categories; primary and secondary.

The primary treatment centers are Columbia Hospital, Greenville General, Spartanburg General, Roper at Charleston, and University Hospital at Augusta, Ga.

The following secondary treatment centers: Anderson County Memorial, Orangeburg Regional, Medical Center at Charleston, and McLeod Infirmary at Florence.

Hospitals are designated either primary or secondary treatment centers for a number of reasons. The equipment available, the orthopedic surgeons available and other trained specialists available are most often the determining factors.

The new respirator center will be located during 1956 at University Hospital at Augusta, Ga., but will serve South Carolina patients as well as those from Georgia and other areas.

Respirator centers are used primarily to treat patients who must use iron lungs and chest respirators in order to breathe. The hospitals which treat polio patients have been equipped mainly through March of Dimes funds and from contributions from various individuals and organizations in the state.

Twenty-seven iron lungs are presently stationed in South Carolina. Should an epidemic occur, he added, more lungs could be borrowed from hospitals throughout the country.

Gen. Dozier said the use of iron lungs is not confined to hospitals alone. Two of these breathing devices are in use in private homes.

In addition to the iron lungs, eight chest respirators and 34 hot pack machines also are permanently stationed in this state. Rocking beds are borrowed from the National Foundation for Infantile Paralysis whenever they are needed.

Dozier said the establishment of the new respirator center at Augusta means that many South Carolinians will be able to get necessary treatment and at the same time be close enough home to see their families and friends more often. Heretofore South Carolina patients who required treatment in a respirator center had been sent to Nashville, Tenn.

Dr. David F. Watson has received his discharge from the medical corps of the Air Force and is returning to his offices at 15 Medical Court, Greenville. He will be associated with Dr. Willard C. Hearin, Jr. in the practice of obstetrics and gynecology.

Dr. Roy P. Finney, of Spartanburg, former Gaffney physician, has announced the reopening of his offices at 134 Pine Street in Spartanburg.

Dr. C. W. Brice, Jr., was named Chester's Young Man of the Year by the Junior Chamber of Commerce at its annual recognition meeting on January 24.

Dr. William P. McDaniel, was elected as Chief of Staff of the Medical Staff of the Colleton County Hospital at the regular meeting of the staff members held December 28. Dr. W. M. Bennett, was elected associate Chief of Staff. He is the retiring Chief of Staff. Dr. W. Earl Fender was elected secretary-treasurer, taking the place of Dr. Carroll Brown.

Dr. Joseph D. Thomas of Denmark, is the new Chief of Staff of the Bamberg County Hospital.

He succeeds Dr. N. J. Knoy. Others elected at the meeting include: Dr. M. C. Watson, chief of obstetrics; Dr. N. J. Knoy, chief of surgery; Dr. H. J. Stuckey, chief of medicine; Dr. Herbert L. Allen, chief of pediatrics.

Dr. Hoyt Bodie of Batesburg, has been named the "Young Man of the Year". This honor was bestowed upon him at the annual Distinguished Service Award Banquet held by the Junior Chamber of Commerce at the Skyline Club near Johnston.

Lt. Cmdr. Robert A. Pringle, Medical Corps Reserve, U. S. Navy, has been released to inactive duty and has reopened his office on Remount Road, Charleston Heights.

Dr. Pringle was recalled to active duty by the Navy in August, 1954, and was assigned as regimental surgeon, 8th Marine Regiment, Second Marine Division, Fleet Marines, Camp Lejeune. He was later stationed at the U. S. Naval Shipyard Dispensary, Charleston.

Dr. E. M. Dibble of Marion, for 18 years chairman of the State Board of Medical Examiners, was named Marion's "Citizen of the Year" by the town's Junior Chamber of Commerce, and received an engraved plaque from Mayor Carroll Atkinson.

Dr. Leon Banov of Charleston, who was elected a vice-president of the Southern Branch of the American Public Health Association in New Orleans last May, has been elected president to succeed Dr. Frank Hall, who died recently in Gainesville, Florida.

Dr. Banov will fill out Dr. Hall's unexpired term, and recently attended a preliminary meeting of the association in Tulsa, Oklahoma, which was held for the purpose of planning the annual meeting to be held there in the spring.

Dr. William Matthews, radiologist, of Atlanta, Georgia will move to Rock Hill on February 1 to replace Dr. Murrah who was recently killed in an automobile accident. Dr. Matthews has been connected with Grady Hospital in Atlanta for some time.

Dr. C. R. Bittle of Charlotte, N. C. is now associated with Dr. W. Don Hiers in Branchville for the general practice of medicine.

Dr. Bittle, a native of Charlotte, is a graduate of Duke University and The Bowman Gray School of Medicine.

GRANTS MADE BY THE FORD FOUNDATION IN SOUTH CAROLINA:

$126,400	Anderson County Memorial Hospital, Anderson
10,000	St. Mary's Hospital, Anderson
39,400	Marlboro County General Hospital, Bennettsville

38,200	Camden Hospital, Camden
27,400	Baker Memorial Hospital
247,500	Roper Hospital, Charleston
59,100	St. Francis Xavier Hospital
29,500	Good Samaritan Waverly Hospital, Columbia
56,300	Providence Hospital, Columbia
27,100	Ridgewood Tuberculosis Sanatorium, Columbia
134,500	South Carolina Baptist Hospital, Columbia
46,100	Conway Hospital, Conway
27,900	St. Eugene Hospital, Dillon
102,500	McLeod Infirmary, Florence
34,300	Saunders Memorial Hospital Clinic, Florence
28,300	Georgetown County Memorial Hospital, Georgetown
55,500	St. Francis Hospital, Greenville
35,500	Shriners Hospital for Crippled Children, Greenville
55,500	Self Memorial Hospital, Greenwood
50,000	Byerly Hospital, Hartsville
10,000	Joanna Memorial Hospital, Joanna
19,100	Kelley Memorial Hospital, Kingstree
36,100	Marion Sims Memorial Hospital, Lancaster
15,700	Berkeley County Hospital, Moncks Corner
27,100	Cannon Memorial Hospital, Pickens
13,200	Ridgeland Hospital, Ridgeland
39,000	St. Philip's Mercy Hospital, Rock Hill
31,300	Oconee Memorial Hospital, Seneca
22,100	Mary Black Memorial Hospital, Spartanburg
10,000	Community Hospital, Sumter
70,100	Tuomey Hospital, Sumter

ANNOUNCEMENTS

At their annual convention in Hollywood, Florida, the South Atlantic Association of Obstetricians and Gynecologists announced plans to hold their 1957 convention in Charleston. The meeting has been scheduled for Feb. 6-8, 1957, at the Francis Marion Hotel.

Dr. Manley Hutchinson of Columbia, president-elect, will be installed next year.

Southeastern Division Regional Meeting of the International College of Surgeons at the Read House, Chattanooga, Tenn., April 30th and May 1st, 1956.

Psychiatric Seminar to be held March 23rd and 24 at Baruch Auditorium, Charleston, S. C.

The Seminar is designed primarily for the non-psychiatrically trained physician and students.

Speakers include—

Dr. Kenneth E. Appel, Prof. Psychiatry
Pennsylvania University Hospital
Subject not announced.

Dr. Robert A. Matthews, Prof. of Psychiatry, Head Department of Psy. & Neurology
Louisiana State University
Subject, "DANGER—DON'T OPERATE"

Dr. Frank H. Mayfield
506 Oak Street, Cincinnati
Subject, "PREFRONTAL LOBOTOMY IN THE TREATMENT OF MENTAL DISORDERS"

The Twenty-Fourth Annual Assembly of the Southeastern Surgical Congress will be held at The John Marshall Hotel, Richmond, Virginia, Monday through Thursday, March 12-15, 1956.

The program for the 1956 SPRING SESSION of The American Academy of Pediatrics is to be held in HOUSTON, April 16 to 19. The Academy group in Houston has developed a fine scientific program which offers many interesting subjects and speakers. A considerable number of the topics to be discussed have not been presented at recent Academy meetings.

The Virginia Society of Ophthalmology and Otolaryngology is sponsoring a convention cruise to Havana and Nassau on May 26 to June 2, 1956. Sailing from and returning to Norfolk, Virginia, the "Queen of Bermuda" will act as the hotel for the trip. Fare for seven days, $165.00 and up per person. Make reservations with United States Travel Agency, Inc., Washington, D. C.

The Eighth Annual Convention of the International Academy of Proctology will be held in the Drake Hotel, Chicago, April 23-26. A well-rounded program covering major developments in proctology will be presented in papers, panel, symposium and motion pictures. Dr. William V. Branford of Dillon is councilor for South Carolina.

MEDICAL OFFICE AND EQUIPMENT—NEWBERRY

A complete office, with tiled floors throughout, x-ray machine, diathermy machine, electrocardiograph, sterilizers, dark room, surgical equipment, laboratory, refrigerator, etc.

This building has reception room, consulting room, two examining rooms, dressing room, and waiting room for colored patients. Modern air conditioning throughout. Cost about $35,000.00. Will rent for $200.00 per month.

Originally owned by Dr. Reyburn W. Lominack, deceased, Newberry. For further information contact: Frank Lominack, 1403 Main Street, Newberry, S. C.

WANTED: Used Mayo Instrument Stand.
J. Hughey Crooks, M. D., Greenville, S. C.

DEATHS

DR. FREDERICK L. WEBB

Dr. Frederick L. Webb, 63, well known physician of Clinton, died suddenly January 10, 1956, after several years of declining health.

Dr. Webb received his high school education at Adel, Ga. and his pre-medical education at Mercer University. He graduated from Emory University, class of 1913, with an M. D. degree.

He has been connected with Whitten Village as chief medical officer and assistant superintendent for 25 years.

DR. J. WILSON RATLIFFE

Dr. J. Wilson Ratliffe, 60, well known physician of Anderson died January 31, 1956 of a heart attack.

A native of Anderson, Dr. Ratliffe received his education in local schools, attended Frazier Fitting School for boys, and took pre-medical training at the College of Charleston. Following his graduation from the Emory School of Medicine, he practiced medicine in Atlanta for 20 years prior to returning to Anderson.

During World War I he served as a surgeon in the U. S. Navy.

Dr. Ratliffe had practiced his profession in Anderson since 1938.

DR. LAWRENCE MANNING HOOK

Dr. Lawrence Manning Hook of Eastover died January 17, 1956.

He was a graduate of the University of South Carolina and in 1892 was graduated from the Maryland Medical College. He began his medical practice at Lugoff in 1893, moving to Eastover in 1894 where he practiced for 56 years. In 1943 he received his 50 year pin from the South Carolina Medical Association.

DR. RALPH K. FOSTER

Dr. Ralph K. Foster, 71, onetime athletic director at the University of South Carolina, died February 3, 1956 after three years illness.

A native of Lancaster, Doctor Foster was graduated from the University of South Carolina and the Medical College of South Carolina and practiced medicine in Timmonsville before coming to Columbia.

DR. THEODORE ELLIS BOWERS

Dr. Theodore Ellis Bowers, past president of the Medical Society of South Carolina (Charleston County) died February 19 in Charleston.

He was engaged in the practice of general surgery.

A native of Brunson, Dr. Bowers was born June 2, 1896. He attended schools in Brunson and pursued the pre-medical course at the College of Charleston.

He was graduated from the Medical College of South Carolina in 1919.

He had been for several years chief of the staff at St. Francis Xavier Infirmary.

Dr. Bowers was a fellow of the American College of Surgeons and a member of Phi Chi medical fraternity. He was a member of the South-eastern Surgical Congress, Medico Chirurgical Club, Charleston County Medical Society, S. C. Medical Association and was until 1946 associate professor of surgery at the Medical College of S. C.

He was a Mason and a member of Union Kilwinning Lodge 4.

ANNUAL MEETING TENTATIVE SCIENTIFIC PROGRAM SOUTH CAROLINA MEDICAL ASSOCIATION

WEDNESDAY, MAY 16, 1956

For the benefit of those Doctors who will not be attending the meeting of the House of Delegates, Scientific Films will be shown. (9:00 A. M. to 12:30 P. M.)

SCIENTIFIC SESSION

3:00 P. M.—"Cerebral Palsy"—Meyer A. Perlstein, M. D., Chicago, Illinois

3:00 P. M.—"Treatment of Aneurysm and Occlusive Diseases of the Aorta"—Denton A. Cooley, M. D., Houston, Texas

4:30 P. M.—Panel: "The Uses and Abuses of ACTH and Contisone"
Moderator—D. F. James, M. D., Atlanta
Allergist—K. T. McKee, M. D., Charleston
Anesthesiologist—W. S. Howland, M. D., New York
Pediatrician—L. K. Diamond, M. D., Boston

THURSDAY, MAY 17, 1956

9:45 A. M.—(Title to be announced)—Louis K. Diamond, M. D., Boston

10:15 A. M.—"The Induction of Labor"—C. Hampton Mauzy, M. D., Winston-Salem

11:15 A. M.—Panel: "The Newer Aspects of Blood Dyscrasis"
Moderator—C. DeSaussure, M. D., Charleston
Hematologist—C. S. Wright, M. D., Augusta
Surgeon—C. S. Welch, M. D., Albany
Gynecologist—C. H. Mauzy, M. D., Winston-Salem
Pediatrician—L. K. Diamond, M. D., Boston

2:15 P. M.—Panel: "Peripheral Vascular Disease"
Moderator—H. L. Brockman, M. D., Spartanburg
Internist—W. T. Foley, M. D., New York
Surgeon—D. A. Cooley, M. D., Houston
Radiologist—H. S. Pettit, M. D., Charleston

4:00 P. M.—Clinico-Pathologic-Therapeutic Conference
Moderator—F. E. Kredel, M. D., Charleston
Surgeon—C. S. Welch, M. D., Albany
Internist—W. T. Foley, M. D., New York
Radiologist—H. S. Pettit, M. D., Charleston
Pathologist—H. R. Pratt-Thomas, M. D., Charleston

BLUE CROSS . . . BLUE SHIELD

A situation has arisen in Michigan, the home state of the second largest Blue Cross Plan in the Country, which has interesting overtones and serious implications. Michigan Hospital Service in November applied to the State Insurance Commissioner for permission to raise its rates 23-1/10 per cent. It was the intention of the Plan to guarantee the resulting rates for the next ensuing two years.

The Plan gave as the reason for its petition for an increase in rates the fact that it was rapidly approaching insolvency, and that it had in 1955 paid out in benefits to members 95.5 per cent of all payments into the Plan during the calendar year. It was predicted that by February 1, 1956, a deficit of 1.6 per cent would develop, and that by March 1 the deficit would be between 2 and 2.5 per cent.

The Insurance Commissioner allowed a compromise increase of 15 per cent. He stated in connection with his action in denying the full increase, but in allowing some increase, that protests against the increase and requests that it be allowed were addressed to the Governor and to himself. The Governor in turn expressed sincere regret for the need of any increase, and stated that he would appoint a commission to study the question of rates and benefits under prepaid hospital and medical care plans.

The Commissioner stated further that problems of over-utilization, faulty utilization, and abuses had been recognized as factors making necessary substantial increases in hospital costs to Blue Cross subscribers. He stated that the problems were related to the use of Blue Cross Plans by doctors, hospitals, and the public. He allowed the 15 per cent increase because he felt that it was necessary to protect the solvency of the Plan and its hospital members.

In announcing his decision to appoint a commission to study the problem of prepaid hospital insurance, the Governor said, "It is obvious that something must be done to check the upward trend of increase in rates."

It was his feeling that if such a check were not provided, prepaid hospital service was likely to become out of reach of the people who need it most. It was his feeling that if that should happen, the demand for public compulsory health insurance will certainly become overwhelming.

Walter Reuther protested vigorously against any increase in Blue Cross rates. He charged that Blue Cross officials and affiliated hospital managements have failed to pursue policies which would hold down costs and which would make rate increases unnecessary. He demanded a full-scale fundamental investigation by a commission of the problems of operation of Blue Cross, and asked that the commission recommend remedial action. He said further that a laxity has been indicated on the part of doctors in sending patients to hospitals. It was his belief that there was faulty use of hospital service in 14 per cent of hospital admissions.

Another labor leader stated that his groups opposed any increase in rates, and that such an increase created a serious social question which might bring a demand for a state health program. He demanded that hospitals and the medical profession do their share in holding down hospital costs.

Several things in connection with the situation in Michigan are interesting to South Carolinians. The problems which brought about the difficulties of the Michigan Plan are present in our State, and protests against increasing rates have been widespread. They have not yet been expressed through leaders of organized groups, and they have not been addressed to any great extent to officials of our State Government; however, such protests may come later.

In South Carolina many of us recognize that abuses similar to those referred to in the Michigan discussions also exist here. Some of us suspect that neither the doctors nor the hospitals are uniformly and honestly attempting to hold down hospital costs. Finally, many South Carolina doctors foresee that failure of Blue Cross and Blue Shield, either because of too restricted service or because of too high rates, to give our people care which they need at a cost which they can pay, will result in a demand for governmental intervention, and ultimately for governmental medicine.

J. Decherd Guess, M.D.
Medical Director

WOMAN'S AUXILIARY
SOUTH CAROLINA MEDICAL ASSOCIATION

President: Mrs. C. R. May, Jr., Bennettsville, S. C. **Publicity Secretary: Mrs. N. D. Ellis, Florence, S. C.**

INVITATION TO CONVENTION

Ocean Forest Hotel, Myrtle Beach, S. C.

May 15, 16, and 17, 1956

A most cordial invitation to attend the 31st Annual Convention is extended to the wives of all members of the South Carolina Medical Association—you do not have to be an Auxiliary member.

Mrs. Mason G. Lawson, President of the Woman's Auxiliary to the American Medical Association, will be the guest speaker at the luncheon, Thursday, May 17, 1956; and Mrs. John J. O'Connell, President of the Woman's Auxiliary to the Southern Medical Association, will bring greetings.

Mrs. J. K. Owens, Jr., Convention Chairman, and Mrs. Wayne Reeser, Co-Chairman, together with the Presidents of the hostess Auxiliaries, Mrs. Fritz Johnson, Pee Dee Auxiliary and Mrs. R. L. Ramseur, Horry Auxiliary, are planning an entertaining and interesting program. Golf and bridge will be planned for your pleasure. The Auxiliary is sponsoring a fashion show for the Wednesday night entertainment for our doctor husbands and a real surprise is in store for all of us. Baby sitters will be available—so bring your whole family and make it a real vacation at the Convention.

Mrs. C. R. May, Jr., President
Woman's Auxiliary to the S. C.
Medical Association

GOVERNOR TIMMERMAN ENDORSES OBSERVANCE OF NURSE RECRUITMENT WEEK

The following is a copy of a letter from Gov. Timmerman to Mrs. E. Bryan Michaux, State Nurse Recruitment Chairman of the Woman's Auxiliary:

State of South Carolina Executive Office
Columbia
Jan. 17, 1956

Mrs. E. Bryan Michaux
Nurse Recruitment Chairman
South Carolina Medical Auxiliary
Dillon, South Carolina

Dear Mrs. Michaux:

Despite continuing advances in the field of medical science, there is still a vital need for nurses. I still believe there is no calling more important to which the young women of our State could aspire..

Your organization is to be congratulated for presenting this need to the public and in encouraging young women to enter the nursing profession.

With all good wishes, I am,

Sincerely yours,

George Bell Timmerman, Jr.

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION—ANNUAL MEETING

The thirty-third annual convention of the Woman's Auxiliary to the American Medical Association will be held in Chicago, June 11 to 15, 1956, with headquarters at the Conrad Hilton Hotel. Mrs. Leonard J. Houda and Mrs. Maurice M. Hoeltgen of Chicago are chairman and co-chairman of the committee on arrangements.

Registration will open on Sunday, June 10 and continue through Thursday. Pre-convention committee meetings will be held Saturday and Sunday, June 9 and 10.

For hotel reservations, write to the reservation manager of the Conrad Hilton. A block of rooms has been set aside for the Woman's Auxiliary, but reservations will NOT be accepted after APRIL 15, 1956.

In a "Secretary's Letter" from Dr. George F. Lull, Secretary-General Manager, American Medical Association, he quoted from a statement made by A.M.A. President Elmer Hess:

"The American Medical Association has recognized the financial needs of the nation's 81 approved medical schools for a long time, and has played a big role in trying to relieve the burden. The A.M.A. has sponsored and financially supported the American Medical Education Foundation since its inception in 1951. Since then, this Foundation has raised nearly five million dollars from the physicians of this country for the medical schools.

"The $90 million Ford grant will help immeasurably. More important is the source from which these funds are derived. They are the fruits of free enterprise, and, obviously, contributions of this magnitude from private sources take the pressure off government and help relieve demands for more and higher taxes."

BOOK REVIEWS

PHYSICIANS FEDERAL INCOME TAX GUIDE —1956 Edition by Campbell, H. J. Liberman, J. B., and Shereff, H. D. Channel Press — Price $2.50.

This is a book which appears to cover well all the points which might require clarification in the preparation of the physicians income tax.

CARDIAC DIAGNOSIS, A PHYSIOLOGIC APPROACH by Robert F. Rushmer, M. D., W. B. Saunders Co., Philadelphia, 1955, 447 pages. Price $11.50.

The traditional cardiology textbook is written predominantly from the clinical point of view. This book, as its subtitle indicates, has an essentially pre-clinical orientation. It is, in a way, a synthesis of knowledge about the structure and function of the heart in health and disease, with particular regard to the newer developments in instrumentation which are assuming increased importance in cardiac diagnosis.

Dr. Rushmer is Associate Professor of Physiology and Biophysics at the University of Washington Medical School. As a biophysicist he is one of a small but growing group of scientists who are profoundly influencing medicine—and perhaps the cardiovascular field in particular—through their application of man's knowledge of physics to a study of man himself. There is, of course, no substitute for sound clinical experience. However, when one considers the advances in our knowledge of cardiac function brought about through the electrocardiogram, specialized roentgenographic procedures, cardiac catheterization techniques and a host of new electronic devices for measuring pressures, sounds, oxygen saturation, blood flow and many other physiologic variables, the contributions of instrumentation are obvious. Dr. Rushmer discusses all these instruments as to their types, their basic principles, and their applications in cardiovascular diagnosis. Some of his own contributions are included notably the "sonvelograph" for measuring heart sounds, and a small gauge which he implanted in the myocardium of dogs to study ventricular activity. In addition, the author has very carefully reviewed the work of others and has compiled a bibliography which is timely and comprehensive. Rather than being a highly technical discussion of instruments and cardiovascular dynamics, this book is written in a clear and simple manner with some excellent mechanical analogies which virtually dramatize some of the more complex physiological mechanisms such as those regulating circulation. And there are many points of very practical value not found in most clinical textbooks: e.g., sources of error in measurement of blood pressure by the ordinary sphygmomanometer. Even discussions of the newer surgical procedures on the heart are included. The illustrations are particularly well done and abundant, adding much clarity to the subject matter.

The book is divided into 5 main sections: the function of the normal cardiovascular system, regulatory mechanisms, congestive heart failure, specialized diagnostic procedures, and a general discussion of diagnosis of cardiac disease. The last section contains an interesting chapter advocating the diagnosis "possible heart disease" as a useful category for those cases manifesting questionable or atypical findings which merit further observation without the stigma of an actual diagnosis of heart disease.

Electrocardiography is dealt with in considerable detail incorporating vectorcardiography to illustrate some of the basic principles. Congenital heart disease is approached logically through a consideration of embryologic development; features of the more common congenital lesions are well summarized.

Throughout this book a clinician is apt to get the feeling that there are valves, blood vessels, pressures, murmurs and electrical phenomena, but no real patients. Those of us who learn to rely so heavily on the patient's history and innumerable "clinical impressions" may not feel entirely at home here. Perhaps "Cardiovascular Physiology" would be a more appropriate title than "Cardiac Diagnosis", although the book is much more than that. As the author states, it is a text "intended for students of medicine in the broadest sense; from first year medical students to experienced physicians who are interested in applying basic concepts to the recognition of disease processes". Dr. Rushmer's new book does much to make these concepts both understandable and useful to clinicians.

—Dale Groom, M. D.

MICTINE* — ORAL NON-MERCURIAL DIURETIC

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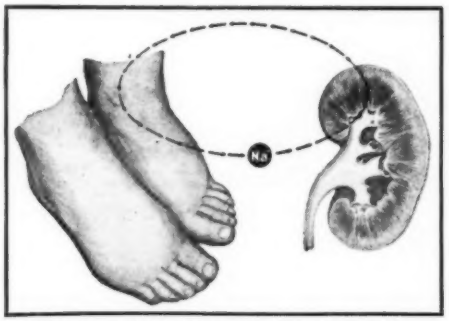
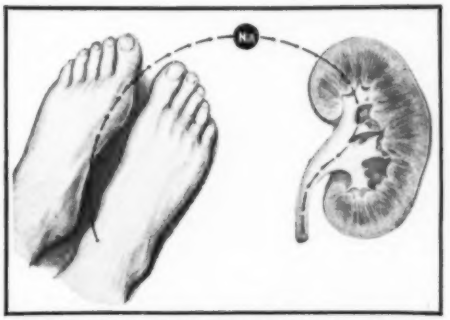


WITHOUT MICTINE — *Prior to diuretic therapy excessive sodium and water are characteristically retained in the edematous patient.*



WITH MICTINE — *Inhibition of the reabsorption of sodium ion leads to an increased excretion of sodium ion, water and chloride.*

An effective diuretic has been described as one which causes excretion of water, sodium and chloride in amounts sufficient to reduce the edema but not to result in salt depletion.

Mictine (brand of aminometradine) introduces to clinical practice an *improved* diuretic which not only meets the standard qualifications but has these seven additional advantages:

Mictine is orally effective; it is not a mercurial; it has no known contraindications; it does not upset the acid-base balance; it exerts no significant influence on electrolyte balance; it may be given in the presence of renal or hepatic diseases; it is well tolerated.

As with most effective therapeutic agents, in high dosage Mictine may cause some side effects in some patients; however, on three tablets daily side effects (anorexia and nausea, rarely vomiting, diarrhea or headache) are minimal or absent.

Clinically, Mictine is useful in the maintenance of an edema-free state in all patients and for initial and continuing diuresis in mild or moderate congestive failure. It is not intended for initial diuresis in severe congestive failure unless either sensitivity or tolerance to other diuretics has developed in the patient.

The maintenance dosage of Mictine, as well as for initial diuresis in mild or moderate congestive heart failure, is one to four 200-mg. tablets daily in divided doses; the dosage for initial diuresis in severe congestive failure, under the conditions already described, is four to six tablets daily. For either use, it is recommended that Mictine be prescribed with meals on interrupted dosage schedules; that is, prescribing Mictine on alternate days or for three consecutive days and omitting it the next four days.

*Trademark of G. D. Searle & Co.

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Q4

SCISSORISMS

THE QUACK

Long has he been of that amphibious Fry,
Bold to Prescribe, and busie to Apply.
His Shop the gazing Vulgar's Eyes employs
With foreign Trinkets, and domestick Toys.
Here, Mummies lay most reverendly stale,
And there, the Tortois hung her Coat o'Mail,
Not far from some huge Shark's devouring Head
The flying Fish their finny Pinions spread.
Aloft in Rows large Poppy Heads were strung,
And near, a scaly Alligator hung.
In this place, Drugs in musty Heaps decay'd,
In that, dri'd Bladders, and drawn Teeth were laid.
An inner Room receives the numerous Shoals,
Of Such as pay to be reputed Fools.
Globes stand by Globes, Volumns on Volumns lie,
And Planetary Schemes amuse the Eye,
The Sage, in Velvet Chair, here lolls at Ease,
To promise future Health for present Fees.
Then, as from Tripod, solemn Shams reveals,
And what the Stars know nothing of, foretels.
One asks, how soon Panthea may be won,
And longs to feel the Marriage Fetters on.
Others, convinc'd by melancholy Proof,
Enquire when courteous Fates will strike 'em off.
Some, by what means they may redress the Wrong,
When Fathers the Possession keep too long.
And some wou'd know the Issue of their Cause,
And whether Gold can solder up its Flaws,
Poor pregnant Lais his Advice would have,
To lose by Art what fruitful Nature gave:
And Portia old in Expectation grown,
Laments her barren Curse, and begs a Son.
Whilst Iris, his Cosmetick Wash would try,
To make her Bloom revive, and Lovers dye.
Some ask for Charms, and others Philters chuse,
To gain Corinna, and their Quartans lose.
Young Hylas, botch'd with Stains too foul to name,
In Cradle here renews his Youthful Frame;
Cloy'd with Desire, and surfeited with Charms,
A Hot-house he prefers to Julia's Arms.
And old Lucullus wou'd th' Arcanum prove,
Of kindling in cold Veins the Sparks of Love.

Samuel Garth, *The Dispensary.*

National Society for the Prevention of Blindness
1790 Broadway, New York 19, N. Y.

Minutes

Committee on Ophthalmia Neonatorum

October 8, 1955

There was discussion of the views expressed at the June 7, 1955, meeting of the National Society's medical consultants, at which time the questions were raised: In view of the current incidence of gonococcal ophthalmias, is it still necessary to use a prophylactic agent in the eyes of newborns? If it is necessary, should state laws permit the use of antibiotics as equivalent to silver nitrate solution?

There was considerable discussion of many studies that have been made on the subject. Regret was expressed that so few studies included careful bacteriological examinations of smears and cultures of conjunctival secretions, and even fewer of cultures of the mother's cervix at the time of delivery. It was believed that many of the reports in the literature declaring that various antibiotics are effective in the prophylaxis of ophthalmia neonatorum actually are difficult to evaluate because of lack of adequate bacteriological studies.

Those present recognized that in some hospitals with excellent nursing service and with a low rate of genital tract infection in the mother at the time of delivery, various kinds of preparations might be substituted for silver nitrate. Yet there are hospitals in North America in which there still is a significant incidence of gonorrheal infection:

Allen and Barrere reported 8 cervical cultures from 531 expectant mothers positive for N. gonorrhea (1½%) compared with 20 of 500 positive (4%) ten years earlier.

Ormsby reported 5 cases of gonococcal ophthalmia among 2,020 infants who received no prophylaxis at birth in a research study.

Davidson, Hill and Eastman reported 7 positive cervical cultures at Johns Hopkins, with two babies having positive eye cultures, among 13,404 births.

Watts and Gleich reported 30 cases of g.c. ophthalmia at Harlem Hospital among 12,417 infants between 1943 and 1947, despite use of silver nitrate and sulfathiazole prophylaxis. These cases might represent human errors in proper administration of prophylaxis.

Mention was made of the problem of home deliveries and the problem of planning for proper prophylactic methods and for thorough examination of the eyes of newborn infants in the many small public and private hospitals of the United States, where it is difficult to maintain adequate nursing service 24 hours a day. It was felt that procedures which might be suitable for the prevention of ophthalmia neonatorum in a modern, well-equipped hospital might be inappropriate in the smaller hospitals. Yet, from the point of view of boards of health, it is not practical to pass a regulation permitting one kind of procedure in the more "elite" hospital, and insisting upon a different prophylactic procedure in other hospitals. However, it was agreed that teaching hospitals should not only be permitted but should be encouraged by state boards of health to conduct research, under proper safeguards, with a variety of preventive procedures in the hope that some day some procedure would be developed that would be applicable to all hospital situations.

It was agreed that sufficient research has been done to support the widely held clinical impression, based upon experience with the use of silver nitrate in the eyes of millions of babies, that both one and two per cent silver nitrate solutions are entirely safe.

Concerning the efficacy of silver nitrate, Dr. Allen cited the Iowa study which showed that either two per cent silver nitrate instilled once, or one per cent solution instilled twice, gave effective prophylaxis.

There should be periodic examination of the genital tracts of expectant mothers, with early diagnosis and treatment of any possible infection found. Immediately after birth, the infant's eyelids should first be wiped with cotton or gauze, then pried open and silver nitrate instilled. The lids should be held apart manually for half to one minute to permit the prophylactic to act; otherwise, the baby will squeeze the lids together and expel whatever drug is used. If the one per cent solution is used, Dr. Allen felt that another drop should be instilled in each eye, with similar technique, after the baby has been bathed and dressed—approximately three hours after delivery. In all cases where silver nitrate has been properly applied, Dr. Allen said, there will be a chemical conjunctivitis lasting 24 to 48 hours with redness and sometimes a slight purulent discharge: this should be regarded as an indication that the prophylaxis has been done correctly, that desquamation of the superficial layer of epithelial cells has taken place, and that any possible infectious agents probably are enmeshed in the slough. If the babies do not show such a chemical irritation, one should check on the instruction of the nurses doing the prophylaxis. It was pointed out that the chemical irritation ordinarily lasts only 24 to 48 hours, that redness or a purulent discharge 3 to 6 days after birth most likely is caused by bacterial organisms, and that conjunctivitis occurring more than 6 days after birth probably is viral in nature (inclusion blennorrhea) or caused by bacteria entering the eyes sometime subsequent to the time of birth.

Penicillin in the conjunctival sac undoubtedly is bacteriostatic rather than bactericidal. Therefore, its action is effective only for a minute or so, until the penicillin has been washed away by tears. Since it produces no chemical irritation, penicillin does not bring about the development of desirable tearing and desquamation which would aid in the expulsion of possible invading organisms. Therefore, if penicillin (or other antibiotics) were to be used, the regulation should specify not only the strength and the vehicle,

but the number of times the application should be repeated during the hospital stay. Franklin's study in Memphis indicated the need for four instillations.

Although not many strains of gonococci resistant to penicillin have been found in the United States, such strains are more common elsewhere and may be brought in. Many hospitals discharge newborn babies three days after birth—in such cases the incubation period of ophthalmia neonatorum has not passed. Trouble could well develop and not be recognized until the ophthalmia was actively destroying the cornea.

There was some question by the oculists present whether possibly the recurrent waves of enthusiasm on the part of some physicians to be permitted to use antibiotics were influenced not by research findings on the best possible agent as prophylaxis against the bacteria that produce ophthalmia neonatorum, but rather by feelings that the antibiotics are new, that their patients expect them to use antibiotics for everything, and that if they use silver nitrate they might be said to be "horse and buggy" doctors. Some patients with an upper respiratory infection stop at a physician's office with the remark, "I decided I'd better have you give me a shot of penicillin"—instead of permitting the physician to decide whether such therapy is actually desirable.

The two unexplained deaths following injection intramuscularly of 50,000 units of penicillin in one series of 9,241 newborn babies show that this mode of administration is dangerous, in contrast to the safety of silver nitrate solution, and therefore should not be permitted routinely.

Conclusion

It was the consensus that properly equipped research centers should be permitted to investigate the possible efficacy of various antibiotics in the prophylaxis of ophthalmia neonatorum, the strength needed and the optimum mode of administration, and that in such studies cultures as well as smears should be made of any exudate found. Studies of smears and cultures from the cervices of gravid mothers should be encouraged.

In the meantime, it was felt that there is no urgency to abandon silver nitrate solution as the preferred prophylactic agent, and that therefore state boards of health should resist impulsive efforts to change state laws or regulations.

Respectfully submitted,
James H. Allen, M.D.
Conrad Berens, M.D.
Thomas R. Hood, M.D.
Hugh L. Ormsby, M.D.

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